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DEPARTMENT OF THE NAVY
SUPPLEMENTARY FEDERAL WAGE SYSTEM (FWS) JOB GRADING GUIDANCE

This is a complete update of the Department of the Navy (DON) Supplementary (FWS) Job Grading Guidance. This guidance cancels and supersedes the NAVSO P-3090 issued Dec 1,1982. The guidelines have been edited to reflect current references, standards, occupational series, titles, etc. Obsolete material has been removed or revised where appropriate. The **Job Grading System** portion from the DON Manual for Position Classifiers has also been updated and included in the guidance.

CONTENTS

I. Introduction

The supplementary guidance provides guidance on the FWS Job Grading System and on grading FWS jobs in occupations and at grade levels for which there are no Office of Personnel Management (OPM) Job Grading Standards, and in situations requiring interpretation of the standards.

II. Job Grading System

A. Key Ranking Jobs. To establish a framework for the fifteen grade nonsupervisory structure, thirty-nine key jobs serve as grade level "peg-points". They range from WG-1 Laundry Worker to the WG-15 Instrument Maker and reflect the relative worth of different lines of work, and control the alignment of the grade levels in all nonsupervisory job grading standards. The key ranking jobs can be found in the OPM Operating Manual, S7 located on the OPM web site.

B. Job Grading Standards. OPM develops and publishes job grading standards and instructions which provide the criteria for grading, titling, and coding FWS jobs. OPM standards writers conduct occupational studies consisting of onsite visits and interviews with supervisors, employees, and union representatives from a cross section of agencies and activities with employees in the occupation being studied. A draft job grading standard is developed and sent to agencies and unions for comments. The standards writers consider these responses and, where appropriate, incorporate them in the final version. Federal agencies are then required to apply the new standard.

Most job grading standards cover specific occupations such as Carpenter or Machinist. However, OPM does issue standards for functional areas with cross occupational boundaries such as those for Helper, Supervisor, Intermediate and Leader jobs.

C. Job Grading Method. For nonsupervisory jobs the FWS employs a "whole job" evaluation method requiring comparison of four factors with the job:

(1) Skills and Knowledge required
(2) Responsibility
(3) Physical Effort
(4) Working Conditions

When comparing a job with the four factors in the job grading standard, no one factor should be considered by itself; the relative worth of the total job overall should be determined.

D. Job Grading Appeals. FWS employees have an absolute right of appeal to OPM but are required to first use the agency review procedures. DON employees may at any time formally request the Civilian Personnel Management Service (CPMS) to review the title, series or grade of their job. Local activities are not permitted to adjudicate formally submitted appeals under CPMS review procedure; however, they may informally resolve job grading issues provided the resolution does not conflict with merit promotion considerations and does not thwart or delay an employee's intent to seek redress to a higher level. Issues concerning inaccurate job definitions are not covered by this review procedure but instead are covered by the grievance procedure.

III. Instructions for Grading Jobs

A. DON Approach to Classifying FWS Jobs

1. Mixed Jobs. A mixed job involves performance on a regular and recurring basis of WG duties in two or more occupations at the same or different grade levels. Mixed jobs are graded and usually titled to the highest level of work (duty) performed on a regular basis. Even if the higher level duty is performed for only a small percentage of the time it controls the grade of the job; therefore, good position management principals should prevail. If the duties performed are at the same grade levels, the job should be coded to the occupation that is most important for recruitment, retention, etc. Duties are not regular and recurring if performed only in the absence of another employee, for training purposes, or in emergencies.

2. Mixed Pay Plans. While the regular and recurring principle applies to performance of higher level WG duties under the WG pay plan, it does not apply when determining a pay plan. In order to be in the WL, WS, or WD pay plans, work in the pay plan must be performed on a substantially full time basis (75% or more of the time). Therefore leader, supervisory, or planning work performed less the 75% of the time would be classified to highest level of WG work performed.

3. At Intervening Grade Levels. As indicated in OPM standards, the depicted grade levels do not describe all possible grades for the occupation. However, while jobs are occasionally classified to grade levels above or below those described in the standard, jobs usually meet a described grade level in the standard. Non classification factors such as A-76 studies do not justify classifying jobs at intervening grades.

4. Specialization and Parenthetical Titles. OPM prescribes official titles for those occupations covered by OPM Job Grading Standards and DON prescribes titles for those occupations not covered by OPM standards but covered in DON guidance. Part 1: Job Grading System for Trades and Labor Occupations, provides for adding parenthetical specialization to basic titles, if a specialization is needed to distinguish between jobs on the basis of qualifications, e.g. Materials Handler (Fork Lift Operation). While only official titles can be used for classification purposes, other titles can be used for internal operations e.g. organizational, on door and desk signs, in recruitment actions, etc.

5. Placing Jobs in an “01” Series. While provisions exist to establish jobs in the “01” series, the emphasis now is to reduce the number of specialty occupations. This is evidenced by OPM’s strategic objective to reduce the number of occupational series. OPM continues to reduce occupations with each new issuance of Part III, Definitions of Trades and Labor Job Families and Occupations.

6. Adding Grades for Additional Responsibilities. As previously stated, no one factor should be considered by itself when grading FWS nonsupervisory jobs. Therefore, unless the increased responsibility also produces a requirement for additional skills and knowledges, no additional grade credit is warranted. Lack of supervision by itself does not warrant an extra grade. Much of the confusion is caused by the additional grade credit given for special additional responsibilities (shift responsibility) in plant operator job grading standards. Under this provision, an extra grade is given because the operator not only runs the plant with more responsibility but also uses more skills and must have more knowledge of the entire system in order to locate problems and determine necessary corrective action.

B. Supervisors WS. Most supervisory titles can be derived from an existing supervisory title, or from an authorized supervisory designator. Supervisor I can be used to designate first level supervisors and Supervisor II can be used to designate second level supervisors. The supervisory designators listed in Appendix A are authorized for use with Supervisory WS titles in accordance with the instructions and definitions provided. When grading supervisory jobs particular attention should be given to selection of the base level of work to avoid crediting a higher level when such level results from a "bonus" grade for shift responsibility or similar reasons.

C. Leaders WL.

1. Working Leader. Working leader titles are constructed by adding "Leader" to the job title of the occupation in which the leader is qualified and which reflects the nonsupervisory work performed by the leader. The series is the same as that for the occupation reflected in the title. Leader jobs should not be coded to an "01" series to reflect work led in more than one trade.

2. Training Leader. "Training Leader" is added to the job title of the occupation in which the training leader is qualified to conduct courses. The occupational series is the same as that for the occupation reflected in the title. An "01" should normally not be used for work in two separate series.

D. Production Facilitating (WD and WN) Jobs. All production facilitating jobs should be graded in accordance with OPM standards and Navy guidance in Appendix C of this document. Activities are authorized to construct titles and series for supervisory and nonsupervisory Production Facilitating Special Pay Plan jobs in accordance with the OPM FWS Operating Manual, S11-3. This manual may be found at the OPM web site.

E. Apprentice and Shop Trainees. These jobs are established in accordance with pertinent guidelines and regulations for the training programs, provided target jobs have been established from which titles and series may be derived. Classification of apprentices and shop trainees should be in accordance with the OPM FWS Operating Manual, S11-8. Care should be taken in selecting the journey level to avoid crediting bonus grades which have been added to the target job for shift responsibility or similar reasons. The pay plan for all apprentices and shop trainees is WT. The title and series for apprentices and shop trainees are the same as for the target job followed by the designator apprentice or shop trainee, i.e., machinist apprentice, WT-3414. The grades for apprentices and shop trainees are as follows:

Grade:		
	Apprentice (1st 26-week period)	01
	Apprentice (2nd 26-week period)	02
	Apprentice (3rd 26-week period)	03
	Apprentice (4th 26-week period)	04
	Apprentice (5th 26-week period)	05
	Apprentice (6th 26-week period)	06
	Apprentice (7th 26-week period)	07
	Apprentice (8th 26-week period)	08
	Apprentice (9th 26-week period)	09
	Apprentice (10th 26-week period)	10
	Apprentice (11th 26-week period)	11
	Apprentice (12th 26-week period)	12
	Shop Trainee (1st 26-week period)	13
	Shop Trainee (2nd 26-week period)	14
	Shop Trainee (3rd 26-week period)	15
	Shop Trainee (4th 26-week period)	16
	Shop Trainee (5th 26-week period)	17
	Shop Trainee (6th 26-week period)	18

F. Helper. Helper jobs are graded at WG-5 in accordance with the OPM Job Grading Standard for Trades Helper. Titles are constructed by adding “Helper” to the journey level job title. The series is that of the journey level job. (Helper jobs may be established below WG-5 under an Upward Mobility program as described in paragraph G below.)

G. Upward Mobility and Other Trainee Jobs. Upward mobility and other special training jobs may be established in accordance with pertinent program guidelines. Trainee jobs should be placed in the trades and labor series of the target job. When the training is not targeted to a specific occupation, the job should be placed in the series in which the work is most characteristic. Activities may establish trainee jobs at grade levels 1 through 5 in accordance with grade level criteria in standards for the occupation involved, or in accordance with the Typical Job Description for Federal Wage System Trainee Jobs in Appendix B of this document. Title and series instructions for wage jobs in several existing programs are provided as follows:

Upward Mobility Program - use the pay plan, series, and title of the target job (e.g., Materials Handler, WG-6907, or Painter Helper, WG-4102). Do not add “Trainee” to the official title except for internal or recruitment purposes.

Stay-in-School Program - for students employed in WG 1-4 positions who worked up to 20 hours during school and full time when school is out, use the title authorized by OPM job grading standards, the pay plan WW, the authorized series code, and the grade level as determined by appropriate standards or guidelines (e.g., Laborer, WW-3502-01). For very routine, low level wage grade work for which students are paid the minimum wage, use the title, “Student Aid” followed by the pay plan YW, the series 3506, and two zeroes in lieu of the grade level (YW-3506-00).

Worker Trainee Opportunities Program – DON wage jobs in this program are classified as Worker Trainee, WG-3501-01. However, if it can be clearly shown that the work performed is in another series, the occupational code (but not the title) for that series should be used.

H. Intermediate Jobs. Jobs in formal training programs are graded in accordance with the OPM Job Grading Standard for Intermediate Jobs. The title and series of intermediate jobs is the same as the targeted journey level trade. See Appendix B for guidance on intermediate jobs in the 2600 job family.

I. Worker Jobs. May be established at the WG-7 and WG-8 when a parent rating at WG-9 or above is described in OPM standards or Navy guides, and when the worker to journey level grade relationship is the same as that depicted in the standard for Intermediate Jobs. Some occupations are of such nature that jobs below the journey level are more appropriately allocated to another series. For example, a worker level is not appropriate for Model Maker, 4749; Die Sinker, 3428; Instrument Maker, 3314; Woodcrafter, 4605; and Electronic Integrated Systems Mechanic, 2610. Also, the “Worker” title is not considered appropriate for equipment operator type jobs such as Crane Operator, Engineering Equipment Operator, Water Treatment Plant Operator, etc., since specific titles are usually authorized for mid-level jobs in these occupations. Lower level work should be analyzed to determine the appropriateness of other occupations such as Laborer. For jobs in which titling instructions are not provided in OPM standards or Navy guidelines, titles are constructed by adding “Worker” to the basic journey level title after dropping the “Mechanic” or “Repairer” suffix. When the last word of the basic title ends in “er”, other than “Repairer”, drop the suffix of such word and add “ing” and then “Worker”, i.e., Pipefitting Worker. Where there are two principal nouns in the title, such as Heat Treater and Temperer, substitute “ing” for “er” in both words and add “Worker”, i.e., Heating and Treating Worker. In rare cases in which these rules do not result in a good title, another title may be constructed consistent with these rules.

J. Inspector. Activities establish supervisory, leader, and nonsupervisory inspector jobs in accordance with the OPM Job Grading Standard for Inspectors, and as appropriate, the standards for Supervisors WS and Leader WL. Appendix D provides guidance for evaluating certain kinds of Inspector jobs; however, the absence of a typical job description for a particular kind of work does not prevent an activity from classifying inspector jobs. The titles of jobs in the typical job descriptions are not mandatory but their use is encouraged when appropriate for the sake of consistency within the Department of the Navy. In no case should a title be used with two different occupational series.

K. Printing and Lithographic Pay Plan. Activities began converting jobs in the 4400 job family from the Navy pay plan to the new FWS pay plan in August 1982. Nonsupervisory jobs are now graded according to published OPM job grading standards for the 4400 Job Family. Supervisory, Leader, Helper, and Intermediate jobs are classified according to OPM standards for those categories.

L. Other Nonsupervisory WG Jobs. Appendix B provides guidance mostly for jobs not covered by OPM job grading standards.

APPENDIX A. AUTHORIZED SUPERVISORY TITLES

The supervisory titles listed below are authorized for use with supervisory job titles in accordance with the definitions provided. Naval activities can construct supervisory titles derived from nonsupervisory jobs covered by the Office of Personnel Management Job Grading Standards and from authorized nonsupervisory titles shown in this issuance, or from titles otherwise specifically authorized. The titles are not intended for use with Leader, Inspector, or Production Facilitating jobs. It should be noted that a special title is intended for use only with the occupational series specified. The correct occupational series must therefore be determined first, then a title for that series can be used. Judgment may be exercised in selecting a title based on careful consideration of the intent of the title and considerations such as career patterns, qualification requirements, and reduction in force practices. Ratings mentioned in definitions as "typically supervised" should normally be viewed as illustrative. The term "predominant" is often used in the definitions for the sake of brevity and should not be construed to overrule basic titling instructions in Section III B of Part I of The Introduction to the Job Grading System For Trades and Labor Occupations.

LISTING OF SUPERVISORY TITLES BY OCCUPATIONAL SERIES

2501 Communications
3401 Central Tool Shop
3401 Mechanical Shops
3601 Structural and Finishing
3701 Aircraft Metal Processing
3701 Metal Finishing Shop
3801 Metalworking Shops
3801 Structural Shops
4601 Woodworking Crafts
4701 Aeronautical Turbine Service Shops
4701 Electrical and Electronics Shop
4701 Electronics and Weapons
4701 Experimental Machine and Metal Shops
4701 Facilities
4701 Facilities Maintenance and Operations
4701 Grounds
4701 Ground Structures
4701 Machinery Repair Shops
4701 Maintenance
4701 Miscellaneous Shops
4701 Public Works
4701 Sanitation
4701 Service Shops
4701 Small Craft Operation and Repair
4701 Small Craft Repair
4701 Temporary Service Shops
4701 Transportation
4701 Utilities
4801 Aircraft Plant Maintenance
5301 Reactor Plant
5701 Materials Handling
5701 Railroad Transportation
5701 Transportation Equipment Operations
5801 Transportation Equipment Maintenance
6501 Ammunition and Explosives

7001 Packing and Preservation
7301 Laundry
7301 Laundry and Dry Cleaning
7401 Commissary
8801 Aircraft Overhaul and Repair

ALPHABETICAL LISTING OF SUPERVISORY DESIGNATORS

4701 Aeronautical Turbine Service Shops
3701 Aircraft Metal Processing
8801 Aircraft Overhaul and Repair
4801 Aircraft Plant Maintenance
6501 Ammunition and Explosives
3401 Central Tool Shop
7401 Commissary
2501 Communications
4701 Electrical and Electronics Shop
4701 Electronics and Weapons
4701 Experimental Machine and Metal Shops
4701 Facilities
4701 Facilities Maintenance and Operations
4701 Grounds
4701 Ground Structures
7301 Laundry
7301 Laundry and Dry Cleaning
4701 Machinery Repair Shops
4701 Maintenance
5701 Materials Handling
3401 Mechanical Shops
3801 Metalworking Shops
3701 Metal Finishing Shop
4701 Miscellaneous Shops
7001 Packing and Preservation
4701 Public Works
5701 Railroad Transportation
5301 Reactor Plant
4701 Sanitation
4701 Service Shops
4701 Small Craft Operations and Repair
4701 Small Craft Repair
3601 Structural and Finishing
3801 Structural Shops
4701 Temporary Service Shops
4701 Transportation
5801 Transportation Equipment Maintenance
5701 Transportation Equipment Operations
4701 Utilities
4601 Woodworking Crafts

COMMUNICATIONS 2501: Use this special designator for supervisory jobs in the 2501 occupation having responsibility for employees in two or more occupations who install, repair and maintain various kinds of communications systems where a single occupation is not predominant.

CENTRAL TOOL SHOP 3401: Use this special designator for supervisory jobs classifiable in the 3401 occupation having responsibility for employees in

diverse occupations in a large central tool shop. Typical occupations supervised include Toolmaker, 3416; Machinist, 3414; Tool and Cutter Grinder, 3417, Sawsmith 4812; Toolroom Mechanic, 4840; Tool and Parts Attendant, 6904; and other related or secondary occupations engaged in storing, issuing, maintaining, repairing and fabricating tools and parts in support of industrial operations.

MECHANICAL SHOPS 3401: Use this special designator for supervisory jobs classifiable in the 3401 occupation having responsibility for several shops collectively involving diverse occupations oriented toward marine mechanical work. The rating is intended for use primarily in Mechanical/Machinery Groups (or other essentially similar shop groups) in Naval shipyards. Typical trades include Machinist, Marine Machinery Mechanic, Pipefitter, Rigger, Toolmaker, Tool and Cutter Grinder, Machine Tool Operator, Air Conditioning Equipment Mechanic, Sheet Metal Mechanic, Welder etc.

STRUCTURAL AND FINISHING 3601: Use this special designator for supervisory jobs in the 3601 occupation having responsibility for employees in diverse occupations who perform maintenance, repair alteration and construction of small masonry structures; and maintenance, repair and finishing work involving hard tile floors and walls, linoleum floors, plaster walls, soft tile, or other finishing work within the 3600 job family. Typical occupations supervised include Mason, 3603; Tile and Plate Setter, 3604; Plasterer 3605; and Floor Coverer, 3609.

AIRCRAFT METAL PROCESSING 3701: Use this special designator for supervisory jobs in the 3701 occupation having responsibility for employees in diverse metal trades occupations engaged in rework, repair, reprocessing and modification of aircraft power plant and airframe components. Work supervised includes such processes as welding, brazing, cutting, molding, heat treating, plating, honing, polishing, buffing, stress relieving, preheating, grinding, drilling, milling, shaping, forming, reaming, tapping, vapor blasting, shot peening, non-destructive testing and other related metal working and metal processing operations where work in two or more Metal Processing 3700 job family occupations is predominant.

METAL FINISHING SHOP 3701: Use this special designator for supervisory jobs classifiable in the 3701 occupation having responsibility for employees in diverse occupations who collectively provide electroplating and metal polishing services as well as related sandblasting, special chemical and metal coatings, painting, and other similar services in support of research and development activities. Typical trades supervised include: Electroplater, 3711; Buffer and Polisher, 3727; Sandblaster, 5423; and Painter, 4102.

METALWORKING SHOPS 3801: Use this special designator for supervisory jobs classifiable in the 3801 occupation having responsibility for employees in diverse metal trades occupations in a production shop or combination of shops including fabrication and assembly of sheet and plate metal parts or equipment. The trades supervised include at least several of the following: Metal Forger, 3802; Boilermaker, 3808; Sheet Metal Mechanic, 3806; Shipfitter, 3820; Structural Iron Worker, 3807; Buffer and Polisher, 3727; Electroplater, 3711; Flame Cutter, 3702; Heat Treater and Temperer, 3712; Welder, 3703; Machinist, 3414; Pipefitter, 4204; Plumber, 4206; and Air Conditioning Equipment Mechanic, 5306. Other ratings may also be included which are either related directly to metalworking or supporting essentially metal fabricating projects. Jobs in which the primary function is the maintenance of buildings, plant and plant facilities should be examined to determine if classification to a rating in the 4700 or other family is more appropriate. For jobs involved in structural shops or

similar organizations in shipyards and ship repair facilities the Structural Shops 3801 designator will normally be appropriate.

STRUCTURAL SHOPS 3801: Use this special designator for supervisory jobs in the 3801 occupation having responsibility for employees in structural shops of ship overhaul and repair facilities in such ratings as Sheet Metal Mechanic, 3806; Shipfitter, 3820; Metal Forger, 3802; Boilermaker, 3808; and Welder, 3703; when two or more occupations in the 3800 job family are predominant. Typical functions include the fabrication, repair, alteration or installation of ship structures, structural iron work, ventilation ducts, doors, lockers, boilers, piping systems and various other related shipboard structures and components. For jobs in other than shipyard/ship repair settings, see the Metalworking 3801 designator.

WOODWORKING CRAFTS 4601: Use this special designator for supervisory jobs classifiable in the 4601 occupation having responsibility for employees in two or more wood work family occupations when no single trade is predominant.

AERONAUTICAL TURBINE SERVICE SHOPS 4701: This designator is to be used for supervisory jobs in the 4701 occupation having responsibility for the overall direction of employees in sheet metal, welding, machining, electrical, and other diverse trades work performed in direct support of aircraft propulsion plant diagnostic and development test operations.

ELECTRICAL AND ELECTRONICS SHOP 4701: Use this special designator for supervisory jobs classifiable in the 4701 occupation having responsibility for employees in both the 2600 and 2800 job families when the job can be filled by employees in a trade under either job family. However, careful consideration should be given to a specialized occupation in the 2600 or 2800 families if either of these is predominant.

ELECTRONICS AND WEAPONS 4701: Use this special designator for supervisory jobs classifiable in the 4701 occupation having responsibility for employees in the Electronics Mechanic, 2604, Ordnance Equipment Mechanic, 6641, and related ratings who collectively perform maintenance, installation, test and repair of fire control and weapons systems, and other systems such as communications.

EXPERIMENTAL MACHINE AND METAL SHOPS 4701: Use this special designator for supervisory jobs classifiable in the 4701 occupation having responsibility for employees who collectively fabricate, install, modify and repair prototype or developmental mechanical, electro-mechanical, pneumatic, hydraulic and optical components and systems. The functions are performed in support of the development, test and evaluation of missile and weapons systems; missile loaders or handling equipment; aircraft; and sea, land and aerial targets. Typical shops supervised include machine, sheetmetal, welding, heat treat, plastics, pattern making, foundry, plating, paint, tool and machine maintenance.

FACILITIES 4701: Use this special designator for supervisory jobs classifiable in the 4701 occupation having responsibility for employees in diverse occupations who collectively perform a wide a range of public works type functions such as utilities operation and maintenance, buildings and grounds maintenance, and transportation and who also perform substantial equipment fabrication, alteration and repair work in direct support of research, development and test programs. The work may include some fabrication of experimental items, when the primary knowledge and skill requirements are not those of a Model Maker. For jobs which do not involve significant work in

support of research, development and test programs, the Public Works designator should be used.

FACILITIES MAINTENANCE AND OPERATIONS 4701: Use this designator for supervisory jobs classifiable in the 4701 occupation having responsibility for employees in diverse trades performing functions in small research detachments involving operation and repair of test equipment, support machinery, mobile equipment and public works facilities, and provide trades support to field test parties, research personnel, or others making use of the facilities. Jobs to which this designator applies normally supervise a few (e.g., 5-15) trades personnel and perform a variety of other responsible administrative duties relating to detachment operations. Typical occupations supervised include Electrician, Welder, Rigger and Maintenance Mechanic.

GROUNDS 4701: Use this special designator for supervisory jobs in the 4701 occupation having responsibility for employees in diverse occupations performing work in the care of grounds, collection of garbage and trash and control of insects and rodents. The work may include responsibility for custodial services and other occupations when assigned as incidental duties in addition to basic grounds care responsibilities. This designator may be used only when there are two or more occupations in different job families such as Laborer, WG-3502; Gardener, WG-5003; Pest Controller, WG-5026; and Tractor Operator, WG-5705; or where practical knowledge of a variety of techniques such as shoring of trenches, patching of roads, seeding of lawns, repair of sidewalks, felling trees or trimming of limbs, etc., and knowledge of the proper use and care of tools and equipment in these tasks is required in order to direct unskilled and semi-skilled personnel in carrying out the work.

GROUNDS STRUCTURES 4701: Use this special designator for supervisory jobs in the 4701 occupation having responsibility for employees in diverse occupations who perform work in the construction, maintenance and repair of ground structures such as roads, bridges, parking areas, air strips and railroad tracks. This includes responsibility for paving areas with asphalt or concrete and may involve supervision over operators of aggregate pits, rock crushers, asphalt or cement mixing plants. It may also include the supervision of the construction of such shore facilities as breakwaters, sea walls, docks and wharves, but these generally are not the predominate functions.

MACHINERY REPAIR SHOPS 4701: Use this special designator for supervisory jobs classifiable in the 4701 occupation having responsibility for employees in diverse occupations who install, maintain and repair machine tools, plant appliances, portable power tools and related items in a shipyard or similar activity. Typical occupations supervised include Machinist, 3414; Industrial Equipment Mechanic, 5352; Production Machinery Mechanic, 5350; Electrician, 2805; Electronics Mechanic, 2604; and other related occupations.

MAINTENANCE 4701: Use this special designator for supervisory jobs classifiable in the 4701 occupation having responsibility for employees in diverse occupations performing maintenance, repair and installation work in large, complex buildings, industrial complexes or other facilities such as chemical production processing facilities. Employees supervised are generally grouped in several discrete trades such as Welder, Pipefitter, Machinist, Industrial Equipment Mechanic, Carpenter, etc. Maintenance, 4701 supervisors are distinguished from Maintenance Mechanic, 4749 supervisors by the involvement of the former with more complex and extensive facilities and hence, the greater need for full time trades specialization. Coverage of this designator may include utilities maintenance in combination with the above and it may also

include grounds maintenance as a secondary function. Selection of the appropriate code and title should be made on the basis of sound judgment in consideration of qualifications and other personnel management requirements.

MISCELLANEOUS SHOPS 4701: Use this special designator for supervisory jobs classifiable in the 4701 occupation having responsibility for employees in diverse occupations engaged in any of a wide variety of shop operations and for which no other designator is appropriate.

PUBLIC WORKS 4701: Use this special designator for supervisory jobs classifiable in the 4701 occupation having responsibility for employees in diverse ratings who collectively perform work in at least two of the following three major public works functions: (1) maintenance and repair of buildings, utilities plants and systems, grounds and ground structures; (2) operation of utilities; and (3) operation and maintenance of transportation equipment. This designator is normally used only for the principal blue collar supervisor in a public works organization.

SANITATION 4701: Use this special designator for supervisory jobs in the 4701 occupation having responsibility for employees in diverse occupations who perform work in both of the following areas: (1) transportation of garbage and trash, using automotive and weight-handling equipment; and (2) disposal of garbage and trash, using incinerators and dumps (including filling and grading of dumps). The designator is not used when only one occupation is predominant.

SERVICE SHOPS 4701: Use this special designator for supervisory jobs classifiable in the 4701 occupation having responsibility for employees in diverse occupations performing support services and other functions in connection with ship repair and waterfront operations. Typical functions include: (1) the fabrication, erection and installation of ship staging, working platforms, blocking, floats, bumpers, rafts and skids; (2) the cutting, shaping, aligning and positioning of blocking in the drydocking of ships; (3) performance of rigging, operation of weight handling equipment, mooring and transportation of material; (4) provision of temporary utility services required by ships and other crafts; (5) abrasive blasting and cleaning of wood and metal surfaces and the application of paints and other protective coatings; and (6) other functions such as maintenance of deck coverings, wood and plastics boats, and ship woodwork. Typical occupations supervised include Shipwright, 5220; Rigger, 5210; Painter, 4102; Sandblaster, 5423; Crane Operator, 5725; Electrician, 2805; Boatbuilder, 4617; and other occupations.

SMALL CRAFT OPERATION AND REPAIR 4701: Use this special designator for supervisory jobs in the 4701 occupation having responsibility for employees performing work involving both operation and repair of small craft when the grade level of the operation and repair work is the same.

SMALL CRAFT REPAIR 4701: Use this special designator for supervisory jobs in the 4701 occupation having responsibility for employees in diverse occupations such as Boatbuilder, 4717; Marine Machinery Mechanic, 5334; Wood Crafter, 4605; Pipefitter, 4204; Sheet Metal Mechanic, 3806; Shipfitter, 3820; Welder, 3703; Electrician, 2805; and related ratings when engaged in the repair and maintenance of small craft.

TEMPORARY SERVICE SHOPS 4701: Use this special designator for supervisory jobs in the 4701 occupation having responsibility for employees in diverse occupations engaged in providing temporary dockside services to Naval vessels such as electrical power, steam, fresh and salt water connections, compressed

air, lighting and other services. The designator is also used for jobs involving services to vessels undergoing overhaul and repair such as extensive preventive maintenance, preventive maintenance inspections, fabrication and installation of protective coverings, and instruction to personnel on ship safety and water and fire zone integrity.

TRANSPORTATION 4701: Use this special designator for supervisory jobs in the 4701 occupation having responsibility for employees in diverse occupations performing work in both maintenance and operation of one or more types of transportation equipment including automotive vehicles, railroad equipment, construction equipment and materials and weight handling equipment such as cranes, forklift trucks, industrial tractors and similar equipment. It may include supervision of Riggers or other occupations. This designator may be used only when there are two or more occupations represented in different job families such as Automotive Mechanic and Motor Vehicle Operator or a combination of such jobs responsible for vehicle repair and vehicle operation classifiable in the 4701 occupation.

UTITLITIES 4701: Use this special designator for supervisory jobs in the 4701 occupation having responsibility for employees in diverse occupations performing work in the maintenance and repair of utilities plants and systems such as electric power, water and sewage treatment, steam, fuel, gas, refrigeration and similar systems. These jobs may also include supervision of utilities plant operators. However, if the occupations supervised include a combination of repair and operation work where the level of operator duties is as high as the highest grade of the repair work, the appropriate occupation is Utility Systems Repairer-Operator, 4742. Reference should also be made to the definition of the Maintenance designator and the definition of the Maintenance Mechanic, 4749 occupation.

AIRCRAFT PLANT MAINTENANCE 4801: Use this special designator for supervisory jobs in the 4801 occupation having responsibility for employees in diverse occupations engaged primarily in the maintenance and repair and, as necessary, the manufacturing or installation of mechanical and electrical machinery, equipment and fixtures used by other workers in the repair, maintenance, overhaul and assembly of aircraft. Typical trades supervised are: Electrician, Electronics Mechanic, Machinist, Industrial Equipment Mechanic, Painter, Pipefitter, Sheet Metal Mechanic, and Welder, in addition to one or more support ratings.

REACTOR PLANT 5301: Use this special designator for supervisory jobs in the 5301 occupation having responsibility for employees in diverse occupations collectively performing repairs and modifications to ships' nuclear reactor plants. These jobs require a thorough knowledge of reactor plants, and the work processes, trade practices, shop procedures and safety rules peculiar to reactor plant repair operations.

MATERIALS HANDLING 5701: Use this special designator for supervisory jobs classifiable in the 5701 occupation having responsibility for employees working in two or more occupations involving the loading and unloading of material to and from railroad cars, trucks, ships and similar vehicles, and in the moving of such material by hand trucks, dollies and other manual means, and also in movement of material by trucks, automotive vehicles, forklift trucks, straddle trucks, industrial tractors, cranes or similar materials handling equipment where the primary purpose of the organization is materials handling. It may include movement of material by truck outside of the activity. In borderline cases selection of another authorized title such as Transportation Equipment

Operations may be made on the basis of sound judgment in consideration of recruitment and other personnel management practices.

RAILROAD TRANSPORTATION 5701: Use this special designator for supervisory jobs in the 5701 occupation having responsibility for employees in diverse occupations such as Braker-Switcher and Conductor, 5736; Locomotive Engineer, 5737; Railroad Dispatcher, 5701; and related occupations when the predominant occupations are 1n the 5700 job family.

TRANSPORTATION EQUIPMENT OPEPATIONS 5701: Use this special designator for supervisory jobs classifiable in the 5701 occupation having responsibility for employees working in two or more occupations involving the operation of transportation equipment such as Motor Vehicle Operator, Forklift Operator, Tractor Operator, etc., and where the primary purpose of the organization is to transport materials and/or passengers. In borderline eases, selection of another authorized designator such as Materials Handling may be made on the basis of sound judgment in consideration of recruitment and other personnel management practices.

TRANSPORTATION EQUIPMENT MAINTENANCE 5801: Use this special designator for supervisory jobs classifiable in the 5801 occupation involving maintenance of transportation equipment such as Automotive Mechanic, 5823; Heavy Mobile Equipment Mechanic, 5803; and Electromotive Equipment Mechanic, 5876.

AMMUNITION AND EXPLOSIVES 6501: Use this special designator for supervisory jobs in the 6501 occupation having responsibility for employees in diverse occupations engaged in the assembly, test repair, modification and/or renovation of gun ammunition, bombs pyrotechnics, surface and air launch missile containers and cradles, torpedo containers, and associated handling equipment. May direct demilitarization of inert and explosive ordnance. The designator should only be used when the predominant qualification requirement involves a knowledge of explosives, explosive devices and containers and related practices.

PACKING AND PRESERVATION 7001: Use this special designator for supervisory jobs classifiable in the 7001 occupation having responsibility for employees in diverse occupations involved in cleaning, preservation, packaging, and packing and otherwise preparing various kinds of equipment and material for shipment. Typical occupations supervised include Packing, 7002; Preservation Servicing, 7006; Equipment Cleaning, 7009; Wood Worker, 4604; Blocker and Bracer, 4602; and other trades, but the predominant knowledge and skill requirements are in the 7000 job family.

LAUNDRY 7301: Use this special designator for supervisory jobs classifiable in the 7301 occupation having responsibility for employees in two or more of the major operations of a laundry including: (1) washing, (2) finishing, and (3) receiving and delivering.

LAUNDRY AND DRY CLEANING 7301: Use this special designator for supervisory jobs in the 7301 occupation responsible for employees in such ratings as Dry Cleaning, 7303; Laundry Machine Operator, 7305; Presser, 7306; and other ratings in the operation of combined laundry and dry cleaning establishments.

COMMISSARY 7401: Use this special designator for supervisory jobs in the 7401 occupation having overall responsibility for employees in diverse occupations such as Baker, 7402; Cook, 7404; Meatcutter, 7407; and supporting occupations in a food service operation.

AIRCRAFT OVERHAUL AND REPAIR 8801: Use this special designator for supervisory jobs in the 8801 occupation having responsibility for employees in two or more occupations engaged primarily in depot-level repair, overhaul, assembly, installation and testing of aircraft, aircraft accessories, and various aircraft systems. Typical occupations supervised include Aircraft Mechanic, 8852; Sheet Metal Mechanic, 3806; Aircraft Electrician, 2892; Electronics Mechanic, 2604; and supporting occupations.

In addition to the above, the special designators listed below can be used when classification to a specialized occupation has been ruled out and where a more specific authorized designator is inapplicable. The following designators can also be used:

Combined Electronic Equipment 2601
Combined Electrical Trades 2801
Combined Instrument Work 3301
Combined Metal Processing 3701
Combined Trades 4701
Miscellaneous Equipment Maintenance 4801
Combined Plant Equipment Maintenance 5301
Combined Stock Handling 6901
Personal Services 7601

APPENDIX B. SUPPLEMENTARY JOB GRADING GUIDANCE

1. GENERAL – This appendix provides guidance on the grading of ratings which have been authorized by the Department of the Navy in the absence of OPM standards for particular occupations or grade levels. It also provides guidance on unusual or troublesome situations requiring interpretation of OPM standards for jobs other than Production Facilitating or Inspectors (see appendices C and D). The guidance usually is in the form of a "Typical Job Description", which is a description of a typical job within a rating followed by a brief evaluation statement. Sometimes however, it covers interpretive subject matter for which the Typical Job Description format is not suitable.

2. SERIES INDEX

SERIES AND GRADE	JOB TITLE	OPM CROSS REF. STANDARDS
----------	Federal Wage System Trainee Jobs	-----
WG-2504-10	Cable Splicer (Communications)	2810
WG-2508-10	Communications Line Installer	2810
WG-2600	Intermediate Jobs in the Electronic Equipment Installation and Maintenance Family	-----
WG-2610-12	Electronic Integrated Systems Mechanic (covering aircraft electronic systems)	2610
WG-2610-12	Electronic Integrated Systems Mechanic (covering aircraft trainers)	2610
WG-2610-13	Electronic Integrated Systems Mechanic (covering aircraft electronic systems)	2610
WG-2801-03	Wire Coding Machine Operator	3111
WG-3401-11	Aircraft Jig and Fixture Builder	3416 3806
WG-3417-10	Tool and Cutter Grinder	3414
WG-3543-07	Stevedore	4602
WG-3604-10	Tile and Plate Setter	3603
WG-3609-09	Floor Coverer	3105
WG-3611-09	Glazier	4607
WG-3701-08	Ship Propeller Finisher	3414
WG-3707-10	Metalizing Equipment Operator	3703
WG-3712-09	Heat Treater and Temperer	3711
WG-3725-07	Storage Battery Repairer	2854
WG-3769-08	Shot Peening Machine Operator	3414 5423
WG-3801-10	Metal Fabricator	3806
WG-3801-10	Ships Tank Tester	Inspector
WG-3801-11	Sheet and Plate Metal Worker	3806
WG-3807-10	Flange Turner	3820
WG-3815-08	Pneumatic Tool Operator	3806
WG-3858-08	Radiator Repairer	3806 7009
WG-4101-10	Graphics Arts Mechanic	3806
WG-4301-08	Ceramics Worker	7402
WG-4351-10	Plastic Molder (Includes Plastic	4352

	Molder Worker, WG-4351-08)	
WG-4360-09	Rubber Worker	4352
WG-4373-10	Foundry Molder	3703
WG-4601-09	Wood and Plastics Installer (Ships)	3105 3610 4352 4607
WG-4639-09	Wharfbuilder	4605 4607
WG-4701-08	Ship Maintenance Worker	3703 4102
WG-4701-10	Antenna Mechanic	3806 5210
WG-4716-09	Railroad Car Repairer	5352
WG-4717-10	Boatbuilder	4605
WG-4801-10	Tool and Gage Checker	Inspector
WG-4840-08	Toolroom Mechanic	6610 6904
WG-4840-09	Toolroom Mechanic	3414 6605 6610
WG-4844-06	Bicycle Repairer	6610
WG-5001-06	Greenskeeper	5003
WG-5205-08	Gas Detection Monitor	Inspector
WG-5221-14	Lofter	4616
WG-5235-05	Test Range Tracker	Helper 5703
WG-5301-10	Aircraft Launching and Arresting Devices Mechanic	5334
WG-5301-11	Test Mechanic (Aircraft Launching and Arresting Devices)	5334 5306
WG-5310-09	Kitchen/Bakery Equipment Repairer	5339 5352 6605 8255
WG-5323-05	Oiler	5806
WG-5364-08	Door Closer Repairer	3817
WG-5401-05	Ice Cream Maker	7404
WG-5401-06	Pumping Equipment Operator	5413
WG-5419-09	Engine and Pump Operator	5415
WG-5427-07	Chemical Plant Operator (Silver Recovery)	5409
WG-5439-09	Environmental Test Equipment Operator	3414
WG-5478-06	Portable Equipment Operator	3602
WG-5485-10	Aircraft Weight and Balance Specialist	Inspector
WG-5486-08	Swimming Pool Operator	5409
WG-5701-08	Mobile Equipment Dispatcher	5413
WG-5701-10	Railroad Dispatcher	5736
WG-5876-10	Electromotive Equipment Mechanic	5378
WG-6907-4/5/6/ WS, WL	Materials Handler (with Addendum)	6907
WG-6968-07	Aircraft Freight Loader	4602 6907
WG-8201-09	Aircraft Oxygen Equipment Repairer	8255

ALPHABETICAL INDEX

Lofter	WG-5221-14	4616
Materials Handler (W/addendum)	WG-6907-4/5/6/ WL, WS	6907
Metal Fabricator	WG-3801-10	3806
Metalizing Equipment Operator	WG-3707-08	3703
Mobile Equipment Dispatcher	WG-5701-08	5413
Oiler	WG-5323-05	5806
Plastic Molder/Plastic Molding Worker	WG-4351-08/10	4352
Pneumatic Tool Operator	WG-3815-08	3806 3809
Portable Equipment Operator	WG-5478-06	3602
Pumping Equipment Operator	WG-5401-06	5413
Radiator Repairer	WG-3858-08	3806 7009
Railroad Car Repairer	WG-4716-09	5352
Railroad Dispatcher	WG-5701-10	5402 5736
Rubber Worker	WG-4360-09	4352
Sheet and Plate Metal Worker	WG-3801-11	3806
Ship Maintenance Worker	WG-4701-08	3703 4102
Ship Propeller Finisher	WG-3701-08	3414
Ships Tank Tester	WG-3801-10	Inspector
Shot Peening Machine Operator	WG-3769-08	3414 5423
Small Engine Repairer	WG-8610-08	5823
Stevedore	WG-3543-07	4602
Storage Battery Repairer	WG-3725-07	2854
Swimming Pool Operator	WG-5486-08	5409
Test Mechanic (Aircraft Launching and Arresting Devices)	WG-5301-11	5334 5306
Test Range Tracker	WG-5235-05	Helper 5703
Tile and Plate Setter	WG-3604-10	3603
Tool and Cutter Grinder	WG-3417-10	3414
Tool and Gage Checker	WG-4801-09	Inspector
Toolroom Mechanic	WG-4840-08	6610 6904
Toolroom Mechanic	WG-4840-09	3414 6605 6610
Trainee Jobs	----------	------
Wharfbuilder	WG-4639-09	4605 4607
Wire Coding Machine Operator	WG-2801-03	3111
Wood and Plastics Installer (Ships)	WG-4601-09	3105 3610 4352 4607

Lofter	WG-5221-14	4616
Materials Handler (W/addendum)	WG-6907-4/5/6/ WL, WS	6907
Metal Fabricator	WG-3801-10	3806
Metalizing Equipment Operator	WG-3707-08	3703
Mobile Equipment Dispatcher	WG-5701-08	5413
Oiler	WG-5323-05	5806
Plastic Molder/Plastic Molding Worker	WG-4351-08/10	4352
Pneumatic Tool Operator	WG-3815-08	3806 3809
Portable Equipment Operator	WG-5478-06	3602
Pumping Equipment Operator	WG-5401-06	5413
Radiator Repairer	WG-3858-08	3806 7009
Railroad Car Repairer	WG-4716-09	5352
Railroad Dispatcher	WG-5701-10	5402 5736
Rubber Worker	WG-4360-09	4352
Sheet and Plate Metal Worker	WG-3801-11	3806
Ship Maintenance Worker	WG-4701-08	3703 4102
Ship Propeller Worker	WG-3701-08	3414
Ships Tank Tester	WG-3801-10	Inspector
Shot Peening Machine Operator	WG-3769-08	3414 5423
Small Engine Repairer	WG-8610-08	5823
Stevedore	WG-3543-07	4602
Storage Battery Repairer	WG-3725-07	2854
Swimming Pool Operator	WG-5486-08	5409
Test Mechanic (Aircraft Launching and Arresting Devices)	WG-5301-11	5334 5306
Test Range Tracker	WG-5235-05	Helper 5703
Tile and Plate Setter	WG-3604-10	3603
Tool and Cutter Grinder	WG-3417-10	3414
Tool and Gage Checker	WG-4801-09	Inspector
Toolroom Mechanic	WG-4840-08	6610 6904
Toolroom Mechanic	WG-4840-09	3414 6605 6610
Trainee Jobs	----------	------
Wharfbuilder	WG-4639-09	4605 4607
Wire Coding Machine Operator	WG-2801-03	3111
Wood and Plastics Installer (Ships)	WG-4601-09	3105 3610 4352 4607

TYPICAL JOB DESCRIPTION
FOR
FEDERAL WAGE SYSTEM TRAINEE JOBS

I. GENERAL

This is a training job designed for use within the parameters of a training program (e.g., Upward Mobility). The purpose of the job is to provide an entrance level for candidates targeted for Trades, Crafts, and/or Manual Laboring related jobs.

II. TYPICAL WORK PERFORMED

Duties of this job consist of completion of assigned tasks related to the work described in the attached description of the "target" job. Work is assigned specifically for training purposes and is not assigned for the purpose of achieving a production quota.

III. SKILL, KNOWLEDGE AND RESPONSIBILITY (Select applicable paragraph)

WG-1 Must have the ability to perform standardized, simple work tasks such as sorting, counting, selecting listed items, cleaning and clearing work locations, loading, and unloading of materials. Must be able to use standardized universal tools and equipment such as hand shears, hammers, pliers, screwdrivers, marking crayons, knives, sponges, mops, brooms, shovels, rakes, etc., to perform simple tasks as directed. Must show potential to learn progressively more difficult tasks up to the level of difficulty depicted in the "target" job.

WG-2 Must show an aptitude for the nature of work depicted in the attached "target" job description. Must be able to follow specific written and oral instructions, recognizing situations which require guidance beyond that which has been provided with the assignment. Must be able to use most of the tools associated with the work of the "target" job in the performance of routine work peculiar to the "target" job as well as routine work which is common to all Trades, Crafts, and Manual Laboring jobs. Work at this level requires the ability to perform tasks with several steps during which judgment must be exercised regarding the proper sequence of those steps. At this level, the ability to achieve consistent results from the performance of the same task is required.

WG-3 Must have a knowledge of the characteristics of the work of the "target" job sufficient to perform the simple, routine tasks of the job with only general guidance as to the necessary steps to take during such performance. Must be able to exercise

judgment in the independent solution of minor problems encountered during performance of simple work assignments. Must know how to use the tools associated with the work of the target job and be able to select the proper tools for specific use during completion of assigned tasks. Must recognize and be able to select materials required in the completion of assigned tasks. Must be able to perform nonroutine tasks associated with the "target" job when specific instructions are provided regarding required steps to follow for such work. Must be able to make judgments as to the proper sequence of steps while performing assigned nonroutine work.

WG-4 Must be able to perform the simple routine and nonroutine tasks associated with the work of the "target" job without close guidance. Must be able to decide what steps and materials are necessary for the completion of such tasks and select the proper sequence of steps and materials without specific guidance. When referring more difficult matters to the supervisor or other employees for assistance, should be able to suggest alternatives from which a selection could be made. When assisting in the completion of difficult tasks, should be able to provide aid without specific direction after the nature of work to be performed has been explained.

WG-5 Must be proficient in performance of assigned portions of the work of the "target" job with only general supervision after assignment is given. Must be able to select the proper alternative solution to problems which arise during performance of assigned portions of the work of the "target" job. Must be able to operate the full range of equipment and use the full range of tools associated with the work of the "target" job, as they apply to the assigned tasks. Should not normally require supervisory guidance to perform any assigned task which is normally associated with the work of the "target" job.

IV. PHYSICAL EFFORT AND WORKING CONDITIONS

This element of the job varies with the nature of the "target" job. In no case do these aspects of the job exceed the level depicted for them in the attached "target" job description.

NOTE: These grade level guides may be used to establish trainee jobs in order to reduce the delay in recruitment for such jobs. The appropriate level definition (WG-1 through WG-5) will be selected and attached to the job description of the target position with a Job Description Cover Sheet which will be completed and appropriately classified in accordance with the OPM or Department of the Navy guidance. While this procedure is primarily intended to facilitate the classification of Upward Mobility jobs it may also be used in classifying other training jobs at the WG-1 through WG-5 level for which no directly applicable OPM standard or Department of the Navy guide exists.

However, where directly applicable OPM or Navy criteria exist, jobs should be described under normal procedures and classified in accordance with those criteria, e.g., Materials Handler, WG-6907-04.

TYPICAL JOB DESCRIPTION

FOR

CABLE SPLICER (COMMUNICATIONS), WG-2504-10

I. GENERAL

Splices lead-sheathed multiple conductor cables carrying telephone, telegraph, teletype, or other low voltage communications circuits. Forms straight splices, joints for branch lines, and terminal connections. Connects and solders individual wires, tests circuits, insulates connectors, and installs lead sleeve over joints. Works on cable containing multiple conductors, installed on either pole lines or underground. Tests and repairs cable. Pressurizes cable and trouble shoots pressure leaks.

II. TYPICAL WORK PERFORMED

Connects ends of conductors. Removes cable covering and insulation, fans out wires, and tests out various circuits to insure proper connections. Scrapes and files wires, staggers connecting points to distribute bulk of splice, joins proper pairs, and solders them. Wraps exposed wires with appropriate insulation, and pours melted insulating material into splice as appropriate. Uses various dehydrating agents and methods as required.

Installs lead sleeve over joint. Cuts and fits lead sleeve over joint, filing, scraping, and dressing edges of sleeve to obtain tight junction with cable sheath. Tightens ends of sleeve against cable sheath and solders sleeve ends to cable sheath to enclose joint using steering core solder with acetylene torch. Wipes excess lead with cloth pad to form and shape cable sheath splice, working lead until a smooth, firm, and watertight joint is obtained between sleeve and cable sheath. Tests splice for water and gas tightness and for proper insulation of conductors.

Connects cable to terminal fittings.

Tests and repairs communication cable. Inspects cable for damaged sheath, and determines location of leaks or broken wires, using buzzer, megger, and wheatstone bridge. Tests for shorts, opens, crosses, and grounds. Repairs cable by removing damaged sections, restoring proper connections, and splicing.

May work on neoprene covered cable.

May pull and install cables in underground ducts or on overhead pole lines. May occasionally perform other duties in telephone installation and repair.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a thorough knowledge of the principles and fundamentals of electricity and be able to read wiring diagrams and make waterproof splices on cable. Must be able to use megohmmeters, voltmeters, ammeters, oscilloscopes, and other similar equipment. Must be capable of interpreting blueprints, sketches, specifications, and technical directives.

B. Responsibility: Incumbent, is responsible for successful completion o work assignments. Work assignments are both oral and written instructions, specifications, or directives.

C. Physical Effort: Work requires climbing, standing, stooping, bending, stretching, and working in tiring and uncomfortable positions. Frequently lifts parts and equipment that weigh up to 20 pounds. Occasionally may be required to lift and carry items that weigh up to 50 pounds.

D. Working Conditions: Work is performed inside and outside and is usually dirty, dusty and greasy. Outside work is sometimes performed in bad weather; other work areas are sometimes noisy. Is occasionally exposed to the possibility of broken bones, electrical shock, burns, cuts and bruises.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Cable Splicer (Communications), 2504; and the Office of Personnel Management Standard for High Voltage Electrician, 2810 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The High Voltage Electrician at the WG-10 level applies comprehensive trade knowledge to install, repair, and maintain commonly used electric power generating and distributing equipment. Has the ability to use instruments such as insulation megger or oscillator and tone detector to locate faults in underground cables or use phasing stick or phase rotation meter to check out rotation of cables, etc. The knowledge and skill required to splice multiple conductor cables, test circuits, and test and repair cables is comparable to this level. Responsibility, Physical Effort, and Working, Conditions required in this job are essentially the same as those in the WG-10 criteria for High Voltage Electrician. Accordingly the proper grade of this job is WG-10, and it is properly classified as Cable Splicer (Communications), WG-2504-10.

WG-2508-l0

TYPICAL JOB DESCRIPTION

FOR

COMMUNICATIONS LINE INSTALLER, WG-2508-l0

I. GENERAL

Installs, repairs, and maintains aerial, underground, and submarine telephone cable or other communication wires and cables and their supports and accessories.

II. TYPICAL WORK PERFORMED

Checks and lays out right of way and clearances for new line installation. Installs poles, anchors and other supporting accessories. Climbs poles or works from overhead platforms to string overhead wire or cable. Pulls cable through tunnels or conduits or lays cable in trenches. Uses various testing equipment to locate trouble and makes repairs, attaches wires or cable to poles or cross arms. On underground lines, runs wire or cable through tunnels or conduits or lays protected cable in trenches. Cuts, fits, bends, and connects and installs conduit or sheathed cable. May splice cable. May operate a cable spinning machine. Installs junction or fuse boxes as needed.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to read cable and pole line charts, diagrams, and work orders. Must be able to set poles to proper depths in various soil conditions. Must be able to rig cable lashing machine. Must be able to operate line trucks, hole diggers, and power take offs. Must have a comprehensive trade knowledge of electrical principles, elements, and systems. Must be able to interpret wiring diagrams, blueprints, etc. Must have skill in the use of handtools and a wide variety of test equipment. Must have a knowledge of various gauges, sizes and types of wire, conduit, couplings, fittings, relays, boxes, circuit breakers, and other electrical devices.

B. Responsibility: Supervisor assigns work orally, or provides building plans, wiring diagrams, and engineering drawings. Incumbent plans and lays out needed methods, material, etc. to accomplish work. Installations and repairs are completed with little or no check during progress. Incumbent is responsible for determining nature of maintenance or repair and the effects of alteration, installation, etc.

C. Physical Effort: Must lift and carry parts of units, test equipment, and tools. Must pull wire and cable during installation procedures. Kneels, stoops, crouches, and stands for long periods of time. Climbs poles. Works aloft on poles, at ground level, and in ground trenches, or manholes. Must have coordination of eyes, hands, legs, and body to accomplish work assignments.

D. Working Conditions: Works outside most of the time, subject to extremes of weather conditions and in close proximity to high voltage lines and equipment. Subject to injury by contact with high voltage lines. Subject to the possibility of falls from poles. Works in awkward positions and is subject to cuts and bruises when handling tools and materials.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Communications Line Installer, 2508; and the Office of Personnel Management Standard for High Voltage Electrician, 2810, is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The work of this job is comparable to that performed by a WG-10 High Voltage Electrician who installs, modifies, connects, inspects, troubleshoots, and repairs overhead and underground primary electrical distribution lines. This requires a comprehensive knowledge of electrical principles, elements, and systems operations, ability to interpret wiring diagrams, and to plan, lay out, and complete installation, modification, and repair on high voltage distribution systems, all of which is required of this job also. The tools and equipment as well as the methods used are similar and often the same as those used by the High Voltage Electrician. Responsibility, Physical Effort, and Working Conditions required in this job are essentially the same as those in the WG-10 criteria for High Voltage Electrician, 2810. Accordingly, the proper grade of this job is WG-10, and it is properly classified as Communications Line Installer, WG-2508-10.

JOB GRADING AND COVERAGE GUIDANCE

FOR

INTERMEDIATE JOBS IN THE

ELECTRONIC EQUIPMENT INSTALLATION AND MAINTENANCE FAMILY 2600

Intermediate jobs in the 2602 and 2604 occupations are classified only at the WG-8 level in accordance with statements in standards for both series, e.g., "Grade 11 in this standard is to be used as the 'journey level grade' in applying the Intermediate Job Grading Table."

Intermediate jobs in the 2602 and 2604 series which entail training on equipment that can support classification to grade 12 or 13 in the Electronic Integrated Systems Mechanic, 2610 series, are graded in accordance with instructions for intermediate jobs in standards for their respective series. Accordingly, such intermediate jobs are graded as either WG-2602-08 or WG-2604-08, whether or not they are targeted to higher levels within the 2610 occupation.

The journeyman grade which is used for the purpose of applying the Intermediate Job Grading Table in the 2606 and 2608 Series will be WG-11, until such time as another level is authorized by future OPM or DON issuances.

WG-2610-12

TYPICAL JOB DESCRIPTION

FOR

ELECTRONIC INTEGRATED SYSTEMS MECHANIC, WG-2610-12

1. GENERAL

Troubleshoots, overhauls, repairs, modifies, tests, and aligns integrated electronic systems such as the AWG-10 weapons system and other systems on the F-4J aircraft.

II. TYPICAL WORK PERFORMED

Performs troubleshooting and repair of the complete integrated systems on the F-4J aircraft. Performs functional tests on the overall system, isolates faults to the component level through such techniques as signal tracing and testing. Analyzes test results to determine the extent and nature of repairs required. Performs necessary disassembly, repair, assembly, and final test and alignment. Guides lower graded personnel in the repair of components after localizing the malfunction.

Performs modifications of equipment on systems according to approved documentation. Performs necessary interfacing based on a knowledge of the overall system and makes suggestions for design and maintenance improvements.

May install and test complete integrated systems on aircraft.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have an advanced practical knowledge of electronic and computer theory and circuitry and associated mathematics. Must understand the operation and characteristics of a variety of electronic and mechanical equipment and know the functions of computers used in the systems worked on. Must be able to isolate malfunctions to portions of the system, trace signals through components and systems, and other wise apply a variety of troubleshooting, testing, and repair procedures.

B. Responsibility: Receives work assignments from a supervisor in the form of work orders and accompanying maintenance documentation. May receive oral and written instructions on such matters as a general outline of the work to be performed, priorities, schedules, etc. Exercises independence in resolving maintenance and repair problems and in coordinating work with others. Work is reviewed in terms of overall results achieved.

C. Physical Effort: May be required to stand, bend, stoop, climb, stretch, and work in cramped or other tiring and uncomfortable positions. May be required to lift and carry parts and equipment weighing up to 45 pounds for short distances.

D. Working Conditions: Works inside in well-lighted, climate controlled areas, in a hangar area, or occasionally outside. May be subject to temperature extremes, noise and crowded conditions.

Additional Information:

The F-4J is a two-seat, fixed wing fighter aircraft capable of carrying the sparrow, sidewinder, and other missiles as well as bombs. The F-4J weapons system, AWG-10, is equipped with pulse and pulse Doppler radar, an advancement over the F-4B aircraft which has pulse radar only. Although the AWG-10 system is less sophisticated than the AWG-9 system used with the F-14 aircraft, (e.g., it cannot use pulse Doppler to track targets while the antenna continues scanning), it has automatic multiple target tracking and other capability and is generally characteristic of integrated weapons control systems. The AWG-10 is not integrated with other integrated systems through a central computer, although there is extensive tie-in with various other systems such as the Central Air Data Computer.

EVALUATION

Appropriate Title, Series, and Standard

The appropriate title and series allocation and the appropriate job grading standard for jobs whose characteristics match this typical job description is Electronic Integrated Systems Mechanic, WG-2610.

Analysis and Findings

The job entails performance under general supervision, of troubleshooting, repairs, and modifications on complete electronic systems such as the AWG-10 weapons group on the F-4J aircraft. The AWG-10 system meets the definition of an integrated system which is described in the standard as an item composed of a number of subsystems in which, in order to accomplish the desired objective, the output of the sensor subsystems is integrated in a logic subsystem and the resultant used to modify the operation of the sensor subsystems and actuator subsystems in response to the internal as well as external changing conditions. The job meets the intent of the WG-12 level of the standard which involves troubleshooting, repair and other work on electronic integrated systems. However, it does not meet the WG-13 leve1 which entails independent work on a complete multisystem, i.e., a number of integrated systems combined and interrelated through an electronic logic device. Accordingly, the appropriate grade of this job is WG-12 and it is properly classified as Electronic Integrated Systems Mechanic, WG-2610-12.

TYPICAL JOB DESCRIPTION

FOR

ELECTRONIC INTEGRATED SYSTEMS MECHANIC, WG-2610-12

I. GENERAL

Maintains, troubleshoots, repairs, modifies, calibrates, and aligns aviation training devices such as the 2F65 Weapons System Trainer for the E2C aircraft. May also work on complete part task trainers and operational flight trainers when this does not require a knowledge of and responsibility for complete multi-integrated systems.

II. TYPICAL WORK PERFORMED

Performs scheduled maintenance of assigned aviation training devices such as the 2F65 Weapons System Trainer and designated part task trainers. Checks systems through the use of general and special test equipment, visual inspection, operational tests, computer diagnostics, and analysis of maintenance documents and records. Identifies problem areas and completes maintenance documentation as appropriate.

Performs troubleshooting and corrective maintenance on assigned devices where a knowledge of complete integrated systems is required. Performs necessary repairs, replaces printed circuit boards and other components, calibrates equipment, and performs final system tests and alignments. Coordinates the work of lower graded, lesser skilled employees assigned as necessary.

Installs approved modifications, assures proper interfacing, provides information concerning the impact of changes on the operation of equipment, and performs tests on completed installations.

Performs duties involved in operating training devices and indoctrinates others on their use.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a thorough knowledge of electronics and mechanical principles related to the training devices and a thorough knowledge of digital and analog computers and computer logic. Must be able to understand complex schematics diagrams, and maintenance publications. Must know the characteristics and operation of a variety of electronic components and subsystems used in the assigned simulators. Must understand computer software and diagnostic routines and a variety of special test equipment and panels. Must be able to interpret error data, predict the progressive effects of malfunctions, and trace errors or malfunctions through numerous circuits and subsystems.

B. Responsibility: Receives work assignments in terms of equipment to be worked on, problems encountered on a previous shift, priorities, and as required, a general discussion of technical difficulties and possible approaches. Judgment and independence is exercised in locating and correcting malfunctions. The supervisor or engineering personnel may provide guidance on policy matters or on unusual technical problems.

C. Physical Effort: Frequently required to stand, bend, stoop, climb, and work in tiring or uncomfortable positions. May be required to lift and carry parts and equipment up to 45 pounds for short distances.

D. Working Conditions: Normally works inside in well lighted, air conditioned areas. May occasionally be required to work in cramped areas such as trailers.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The equipment worked on is considered to fall within the definition of Electronic Integrated Systems Mechanic, WG-2610 and the Office of Personnel Management Standard for that occupation is therefore applicable for job grading purposes.

Analysis and Findings

Device 2F65 is a complete Weapons System Trainer. The cockpit portion is housed in one of three van type trailers, the tactics portion is housed in a second and the computers are housed in a third. However, the devices are not integrated, in that they are capable only of independent operation as a crew trainer and an operational flight trainer. The cockpit is on a 2 degrees of motion base, is equipped with a visual system, and is considered to be an integrated system. However, the device lacks total integration as a multisystem as that term is defined at the WG-13 level of the standard. The work is performed on integrated systems with the degree of independence described at the WG-12 level. Accordingly, the appropriate grade of this job is WG-12 and it is properly classified as Electronic Integrated Systems Mechanic, WG-2610-12.

WG-2610-13

TYPICAL JOB DESCRIPTION

FOR

ELECTRONIC INTEGRATED SYSTEMS MECHANIC, WG-2610-13

I. GENERAL

Troubleshoots, overhauls, repairs, modifies, tests, and aligns multi-integrated electronic systems such as the complete electronics package on the F-14A or F-14s aircraft

II. TYPICAL WORK PERFORMED

Performs troubleshooting and repair of the complete electronic multisystem of the F-14 aircraft. Determines the approach, and isolates faults or malfunctions to the component level through various techniques such as signal tracing and testing, and through analysis of diagrams, schematics, and other maintenance guidelines as well as application of comprehensive repair experience. Is designated to troubleshoot or coordinate work on the most difficult problems where the fault cannot be pinpointed readily to a single integrated system and where problem analysis involves testing, signal tracing, and other analysis of the information loops in at least three integrated systems.

Performs modifications of major systems according to approved documentation. Performs necessary interfacing and makes suggestions for design improvements based on knowledge of overall system configuration and operating problems. Makes or coordinates installation of complete multisystems on the F-14 aircraft or makes difficult or critical equipment installations. Assures correct interfacing, checks out operation and takes corrective action as necessary.

Tests and aligns equipment and systems as required.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a comprehensive practical knowledge of electronic and computer theory and circuitry and associated mathematics. Must understand the operation and characteristics of a wide variety of equipment such as pulse radar, pulse Doppler, TACAN, inertial navigation, automatic flight control, weapons control, electronic countermeasures, infrared and other equipment. Must know the functions of digital and analog computers within the separate aircraft systems and understand how the various subsystems and systems interact with one another, either directly or through the computer signal data converter. Must be able to isolate malfunctions to portions of the multisystem, trace signals through numerous components and subsystems, and otherwise apply a wide range of troubleshooting, testing, analysis, and repair procedures.

B. Responsibility: Assignments are received from a supervisor in the form of work orders and accompanying maintenance documentation. Oral or written instructions may be received in broad terms on such matters as the scope of the task, priorities, schedules, policy and available resources. Incumbent is responsible for applying appropriate troubleshooting, repair, and installation procedures and for performing repairs independently. The supervisor is normally consulted only when unusual problems arise such as unexpected repair costs, policy matters, etc.

C. Physical Effort: Frequently required to stand, bend, stoop, climb, stretch, and work in cramped or other tiring and uncomfortable positions. May be required to lift and carry parts and equipment weighing up to 45 pounds for short distances.

D. Working Conditions: Works inside in well-lighted, climate controlled areas in a hangar area, or occasionally outside. May be subject to temperature extremes, noise, and crowded conditions.

Additional Information:

The F-14A is a two seat, swing-wing fighter aircraft which carries a 20mm cannon and varying combinations of Sparrow, Sidewinder, and Phoenix missiles, as well as bombs. It contains a number of electronic systems with discrete functions having separate computers which can "talk" with one another and share information either directly or through the Central Signal Data Converter (CSDC). A few of the separate systems are integrated systems. For example, the Hughes Airborne Weapons Group Nine (AWG-9), in conjunction with its computer, uses inputs from radar to establish target identities and establish target priorities. It uses data from various sources for target geometry and to establish missile launch envelopes. In addition, the computer monitors other black boxes within the aircraft and, because of its storage capacity, is assigned to perform other functions. The AWG-9 radar includes pulse as well as pulse Doppler and there are six modes of operation. In the track while scan mode, used in conjunction with the Phoenix missile, the system can track up to 24 targets simultaneously while the antenna continues to scan. In another system, the Central Air Data Computer (CADC} uses sensor data such as pitot pressure, static pressure, temperature, and angle of attack to alter aircraft control surfaces including wing sweep. The Automatic Flight Control System (AFCS) makes use of an analog computer to provide commands for attitude, altitude, heading, and approach. These systems exchange data with other systems. Some of the systems provide information primarily for display or other purposes not requiring feedback loops, and are not integrated systems. Other systems such as the Air Inlet Control Systems (AICS), which control the engine inlet ramps as a function of airspeed, stand alone as independent systems. (Note: The F-14B electronics package is practically the same as the F-14A.)

EVALUATION

Appropriate Title, Series, and Standard

The appropriate title and series allocation and the appropriate job grading standard for jobs whose characteristics match this typical job description is Electronic Integrated Systems Mechanic, WG-2610.

Analysis and Findings

The WG-13 level is appropriate for jobs in the 2610 occupation which involve independent performance of repairs on multi-integrated systems requiring comprehensive knowledge of the complete multisystem and the ability to diagnose problems and trace through numerous interconnections of signal paths both between and within individual subsystems of the multisystem complex. Multisystems are characterized in the standard as consisting of several complete integrated systems combined through a logic device and accomplishing a number of major functions. The F-14, with its sophisticated AWG-9 weapons group, its complex flight control system, and other interacting integrated and non-

integrated systems tied together through the Central Signal Data Converter, is considered to be a multi-integrated system. Since the incumbent is fully responsible for repairing and testing the multisystem, requiring a comprehensive knowledge of the complete package, WG-13 is warranted. Accordingly, the appropriate grade of this job is WG-13, and it is properly classied as Electronic Integrated Systems Mechanic, WG-2610-13.

TYPICAL JOB DESCRIPTION

FOR

WIRE CODING MACHINE OPERATOR, WG-2801-03

I. GENERAL

Performs tasks concerned with the identification marking of wire or cable using wire stamping machines. Operates Thermofit Marking System to mark heat shrink tubing.

II. TYPICAL WORK PERFORMED

Sets up and operates wire stamping machines to mark identifier codes on wire or coaxial cable. Selects proper wire or cable according to specific instructions on wire/cable drawings. Selects tape and temperature following the stamping machine operation manual for type and size wire. Sets dwell and pressure control on machine to insure permanent marking but not sufficient to crush wire. Threads wire or coaxial and presses start button. Operates Thermofit Marking System to type numbers or letters on heat shrink tubing for use on cable or coaxial cable. Measures and cuts cable or coaxial cable to correspond with the heat shrink tubing and packages together for use by our shop or other customers.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a working knowledge of wire types and sizes. Must be able to read and interpret wire/ cable drawings. Must have a working knowledge of wire stamping machine operations.

B. Responsibilities: Receives detailed oral and written assignments from supervisor or higher graded worker. Decisions on work methods, identifier markings, length and batch are covered by specific procedures and written instructions.

C. Physical Effort: Work requires considerable standing, sitting, and bending. Requires a fair degree of manual dexterity. May occasionally lift up to 40 pounds.

D. Working Conditions: Works in a well lighted, heated, and ventilated area. May be exposed to cuts, bruises, broken bones, and burns from hot equipment.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Wire Coding Machine Operator, WG-2801. The Office of Personnel Management Standard for Sewing Machine Operator, WG-3111 is the most nearly applicable to this occupation for job grading purposes.

Analysis and Findings

At the WG-3, Sewing Machine Operators have a basic knowledge of sewing machine operation. They know how to thread the machine, wind bobbins, adjust tension, and oil parts. They perform work following specific instructions. This level of work is comparable to the level of skill, knowledge and responsibility required of the Wire Coding Machine operator who follows specific instructions in setting up and operating wire stamping machines. Since both jobs have essentially the same levels of Physical Effort and Working Conditions, the correct grade is WG-3 and it is properly classified as Wire Coding Machine Operator, WG-2801-03.

TYPICAL JOB DESCRIPTION

FOR

AIRCRAFT JIG AND FIXTURE BUILDER, WG-3401-11

I. GENERAL

This job is located in the Jig and Fixture Shop, Manufacturing Section, Equipment Manufacturing Branch, Plant Services Division, Production Engineering Department, NAVDEP. Working in conjunction with cognizant design authorities in the Production Engineering Department, incumbents build, install, align, and repair aircraft jigs and fixtures and hydraulic, pneumatic, and other mechanical test equipment for use by mechanics of the Production Department. Among the types of jigs and fixtures fabricated are welding, drilling, shearing, aligning, locating, assembly and installing jigs, aircraft handling dollies, workbenches, wing jigs, and rigging fixtures.

II. TYPICAL WORK PERFORMED

Receives work assignments through a supervisor from the Industrial Planning Division, and other sources with information such as blueprints, sketches, and written or verbal instructions. Draws full size and necessary scale size views, sections, and profiles. Develops templates and patterns by radial and parallel line development; uses triangulation, geometry, and other mathematical methods. Transfer dimensions to metal with layout and marking tools. Works with precision measuring instruments including optical tooling as well as hand tools and metal working machines. Fabricates and assembles from metal and other materials and various manufactured components, jigs, fixtures, test stands, test benches, and special handling equipment. Works with steel, brass, aluminum, lead, plastics, wood, rubber, and fabric in sheets, plates, angles, channels, pipe, tubing and other shapes. Installs jigs, fixtures, testing and handling equipment in Production Department Shops. Works with Production Shop personnel to accomplish repair work or to assemble first part for first test run. Presents completed job to Quality Assurance Specialist for approval. Realigns jigs and fixtures in or out of Production Shop areas when necessary or in support of the Preventive Maintenance Program. Works in close conjunction with Engineers and Technicians of the Equipment Engineering and Industrial Planning Division of the Production Engineering Department and with other Technicians in the development of prototype jigs, fixtures, and testing or handling equipment.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to read and work from complex blueprints, sketches or samples. Must know geometry, trigonometry, and shop mathematics. Must be able to use parallel line, radial line, and triangulation in developing templates and patterns. Must have knowledge of metal shop production methods, tools, and equipment. Must be able to make setup on metal working machines. Must know the characteristics of various metals and alloys and other materials and the function of systems components used in the manufacture of jigs, fixtures, and test and handling equipment. Must have working knowledge of pneumatic and hydraulic principles and know the characteristics of gases and liquids used in various testing equipment. Required to work to tolerances as close as .005 of an

inch in layout, metal working and fabricating jigs, fixtures, and testing and handling equipment.

B. Responsibility: Receives written and/or oral instructions regarding work assignments from supervisor. Worker is responsible for completion of assignment. Frequently required to be job leader of complex jobs which must have close coordination with employees of several trade skills. Constantly required to work in close conjunction with employees in other ratings such as Machinists, Pipefitters, Riggers, Electricians, etc., or others as needed to complete assignments. Must follow through on work assignment within journey level requirements with a minimum of supervision.

C. Physical Effort: Lifts and carries bulky weights of up to 75 pounds for short distances, works in various positions such as bending, sitting, standing or kneeling and in crowded areas and close quarters. Must be able to prepare for use hand powered hoist in handling and placing heavy objects.

D. Working Conditions: Subject to cuts from sharp edges of metal, burns from welded metal, grinder dust, liquids, fumes, grease, oils, and noise. Must wear prescribed safety equipment such as safety glasses, shoes, gloves, and other safety equipment as needed. Works in building, well lighted, heated, and ventilated a major portion of the time. Will be required to work outside on special projects. Will be required to work away from assigned shop on installation of jigs and test equipment.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The definition for the Machine Tool Work Family, 3400, covers most, if not all, of the characteristics of the job, e.g., reading and interpreting of blueprints and sketches; lay out of work; performance of bench, machine, and hand tool work to shape, fit, finish, and assemble parts and manufacture, assembly, and repair of metal parts, tools, gages, models, patterns, etc. Consequently, the general 3401 series in the 3400 family is appropriate, and the proper title is Aircraft Jig and Fixture Builder. The most nearly applicable Standards are those for Sheet Metal Mechanic, 3806, Machinist, 3414, and Toolmaker, 3416.

Analysis and Findings

The nature of the work done in this job, when compared with that depicted at the various grade levels in the Sheet Metal Mechanic, 3806 standard, corresponds very well with that covered at the WG-11 level. At that level items produced have combinations of features which require the use of triangular projection as well as lower level layout procedures. This level of complexity is apparent in the job at hand. At this level in this standard, as in this job, the items made are on the order of "first part" or prototype items. This characteristic is also found at the WG-11 level in the Machinist job grading standard.

Reference to the Toolmaker, 3416 standard reveals that, among the tasks performed by employees assigned to that series is the fabrication and manufacture of jigs and fixtures. While this job does not have sufficient characteristics of the Toolmaker craft to be properly placed in the Toolmaker series and titled as a Toolmaker, the 3416 standard is considered to be a viable reference for assistance in determining an appropriate grade level for the job. At the WG-11 level, Toolmakers work from blueprints, sketches, and oral instructions, determining and organizing work procedures and processes, noting

and providing for critical dimensions, and applying various formulae and mathematical procedures to calculate dimensions required to perform assigned work. This level of work is comparable to that described for this job rather than that depicted at the WG-13 level where an intimate knowledge of the physical properties of numerous substances is required in order to determine their adaptability to the specifications of very highly complex items with extremely close tolerances of fit and performance. Accordingly, the proper grade of this job is WG-11 and it is properly classified as Jig and Fixture Builder, WG-3401-11.

ADDENDUM - EVALUATION BY OFFICE OF PERSONNEL MANAGEMENT

The following is a synopsis of an OPM evaluation of on a job similar to the one described in the typical job description:

This position is responsible for building, installing, aligning, and repairing aircraft jigs and fixtures and hydraulic, pnuematic and other mechanical test equipment for use by mechanics in the Production Department. Jigs and fixtures fabricated include welding, drilling, shearing, aligning, locating, assembly and installing jigs, aircraft handling dollies, workbenches, wing jigs, and rigging fixtures. Work assignments involve: drawing full size and necessary scale size views, sections, and profiles; developing templates and patterns by radial and parallel line development using triangulation, geometry, and other mathematical methods; transferring dimensions to metal with layout and marking tools working with precision measuring instruments; fabricating and assembling jigs, fixtures, and other equipment working with steel, brass, aluminum, lead, and plastics in a variety of shapes; installing jigs, fixtures, and equipment; and working with engineers and technicians in developing prototype items. The supervisor provides written and/or oral instructions and the incumbent is responsible for completing the assignment.

We agree that no specific series has been established to cover the work described for this job and that classification to the WG-3401 series is appropriate because of the job's characteristics. These characteristics include: the laying out of work, using the ability to read and work from complex blueprints, sketches or samples; performance of bench, machine, and hand tool work to shape, fit, finish, and assemble parts; and manufacture, assembly, and repair of metal parts and items such as jigs, fixtures, test stands, test benches, and special handling equipment.

The position compares favorably with the WG-11 level of the Job Grading Standard for Toolmaker, WG-3416. Toolmakers, WG-11 fabricate, overhaul, and repair standard types of cutting tools jigs and fixtures, drilling templates, dies and gages. They are skilled in planning and laying out work from blueprints, sketches, or other work specifications applying advanced shop mathematics and handbook formulas to compute dimensions and plan and layout work setting up and operating all conventional machine tools and attachments selecting proper tools and machine operations to be used and performing necessary handwork to finish and assemble items. WG-11 toolmakers must have Knowledge of the construction of standard types of jigs and fixtures and their uses in the machine shop. They receive work assignments in the form of blueprints, sketches or drawings and specifications or oral instructions which provide information on materials and tool design principles to be incorporated in the item to be made. Work is reviewed while in process and upon completion to see that it meets specifications and accepted trade practices.

The position also compares favorably with the WG-11 level of the standard for Sheet Metal Mechanic, WG-3806. Sheet Metal Mechanics WG-11 develop plans and templates for, or lay out, construct, assemble and install irregular items and systems which have various combinations of features which make them difficult to make of join. These items or systems may be apparatus for a one-time project or in support of experimental or testing activities. The WG-11 mechanics frequently use principles of triangulation in addition to parallel-line and radial-line development procedures. They adapt shop practices, methods, and techniques to fit each new situation. They apply a thorough knowledge of metals and how their characteristics fit the needs and requirements of the project because the assignments are usually expressed only in terms of expected results.

TYPICAL JOB DESCRIPTION

FOR

TOOL AND CUTTER GRINDER, WG-3417-10

I. GENERAL

Sharpens, reworks and manufactures standard and special cutting tools for use in various machine tools by operating grinding machines and performing hand finishing work.

II. TYPICAL WORK PERFORMED

Sharpens standard cutting tools such as end mills, drills, counterbores, milling cutters, machine centers, thread and gear hobs, gear cutters, turning and facing tools, cutoff tools, thread chasers, and taps. Inserts tool in collet of grinding machine and adjusts it for concentricity. Selects proper grinding wheel and dresses it with diamond dressing tool. Installs indexing attachment on cutter to be ground and adjusts machine to obtain proper cut and clearance. Grinds tool, indexing as appropriate to bring successive teeth or flutes into position for grinding. Makes light finishing cuts and insures that teeth or flutes are ground to close concentricity. Removes slight burrs by hand rubbing with fine abrasive.

Reworks and regrinds special cutting tools in a manner similar to the above but requiring additional machine set-ups and adjustments in order to obtain different shapes and angles from those originally on the cutting edges. Dresses wheel to required radius and angle with diamond cutter, using gage blocks and micrometers. Checks work by optical comparator.

Makes special flat form cutting tools, working from tool drawings or sketch. Uses shaper to machine stock and milling machine to make recesses for tungsten carbide inserts. Brazes or silver solders inserts to shank. Makes layout of profile to be ground. Roughs out tool on diamond impregnated wheels and finishes on grinding machine. Sharpens tools in manner described above.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to set up and operate various types of grinders such as cylindrical, internal, rotary and reciprocating surface grinders; plain and universal tool grinders drill, tap and hob grinders honing machines, and other specialized grinders. Must be able to select appropriate grinding processes, machines and set-ups and plan sequence of operations. Must be able to calculate various shapes and angles using charts, tables and knowledge of shop mathematics. Must be able to read blueprints, sketches and specifications, be capable of laying out work, and be able to make templates and holding devices as required. Must be able to use micrometers, dial indicators, surface gages, surface plates, size blocks, verniers, sine bars, hardness tester, optical comparator and other measuring instruments. Must know various types and grades of abrasives, including diamond impregnated wheels, the characteristics of various kinds of alloy steels, tool steels and carbide steels, and appropriate abrasives to use. Must be able to work to tolerances of .0005 inches or less.

B. Responsibility: Assignments are received from shop supervisor with oral instructions concerning what is to be done along with necessary sketches, blueprints, samples or specifications. Incumbent determines appropriate machines, attachments, setups, processes and procedures and may assist other trades on grinding processes. Carries out work from layout to completion and checks own work during progress. The supervisor is usually available for consultation on unusual problems. Work is subject to review on completion to assure that it meets specifications and acceptable trade practices.

C. Physical Effort: Work requires almost constant standing and requires frequent bending, stooping and reaching. Weights of up to 40 pounds are frequently lifted and handled, although assistance is normally available for weights over 40 pounds.

D. Working Conditions: Works indoors under noisy, dirty, dusty, and other uncomfortable conditions. Is subject to cuts, bruises and other injuries from moving parts of machinery, sharp edges, cutting tools, grinding wheels and flying particles. Is also exposed to skin irritations from various compounds as well as burns from hot meta1

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Tool and Cutter Grinder, 3417, and the Office of Personnel Management Standard for Machinist, 3414, is the most nearly applicable to this occupation for job grading purposes.

Analysis and Findings

Skill and knowledge requirements of the job compare favorably with those of the WG-10 Machinist. Like the Machinist, the job requires knowledge and skill in the set-up and operation of a variety of machines used in performing specialized operations in the fabrication of various kinds of metal parts and items. The grinding operations are varied and require the level of expertise characteristically found in Machinist positions. Responsibility, Physical Effort and Working Conditions required in this job are essentially the same as those in the WG-10 criteria for Machinist. Accordingly, the proper grade of this job is WG-10 and it is properly classified as Tool and Cutter Grinder, WG-3417-10.

TYPICAL JOB DESCRIPTION

FOR

STEVEDORE, WG-3543-7

I. GENERAL

Loads and unloads ships, barges, and other vessels, working under ship's tackle or dockside. Transports materials between dockside and ship's deck or hold. Performs rigging, lashing and stowing and assists a higher level worker in more difficult aspects of the work.

II. TYPICAL WORK PERFORMED

Segregates, stacks and piles articles on wharf in such manner as to prevent damage and provides for efficient loading in proper sequence. Palletizes and lashes material as required. Packs items in carrying or stowing cases as necessary. Loads cargo nets. Checks and tallies cargo.

Operates conveyors, hand trucks and high lift trucks to move cargo from dockside to ships. Rigs save-all to side of ship to prevent loss of cargo overboard. Hitches up material for lifting by crane, hoist and ship's tackle using rope, wire or chain slings, spreaders and hooks. Guides load to prevent it from swinging and striking other objects. Assists Riggers as required.
Stows cargo in ship's holds or on barges. Performs bracing, blocking and shoring of cargo, as required, and in taking other precautions to prevent shifting of, or damage to, cargo during voyage.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must understand general principles and procedures involved in loading, unloading and storing cargo for ships and other vessels. Must know the use of various kinds and sizes of rigging gear and the strength of wires and cables in hitching material for lifting. Must be able to use various cargo stowing equipment such as conveyor rollers, snatch blocks, drag lines, roll back boards and slide boards. Must know the use of various kind and sizes of hardware used in blocking and bracing and the various procedures for the use of cables, straps, blocks, wedges and other staying devices. Must be capable of operating industrial tractors and high lift trucks.

B. Responsibility: General work assignments and instructions are received from a supervisor. May work as a member of a stevedoring crew under a leader, or may assist Winch Operators and Riggers or other higher level workers. Routine work is performed without detailed instructions and is reviewed primarily for efficiency and adherence to regulations.

C. Physical Effort: The job requires frequent lifting and carrying of weights up to 90 pounds for distances of up to 15 feet, and pushing or pulling of heavier weights. Strenuous work is often performed at a rapid pace for long periods. Must climb ship's ladders and be able to kneel, stoop, bend and otherwise work in strained or awkward positions.

D. Working Conditions: Works outdoors in good or adverse weather conditions or works in holds of ships. Is frequently exposed to temperature extremes, smoke,

dust, dirt, noise, vibrations, poor illumination, poor ventilation, unpleasant odors and dampness. Is also exposed to the danger of cuts, bruises, burns, strain, and broken bones as well as other injuries resulting from such things as falls, moving machinery and swinging objects.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Stevedore, 3543; and the office of Personnel Management Standard for Blocker and Bracer, 4602 is the most nearly applicable to this occupation for job grading purposes.

Analysis and Findings

The Stevedore applies limited knowledges of the Rigger and the Blocker and Bracer trades in addition to lower level skills such as those of Fork Lift Operator and Laborer. The higher level skills and knowledge are comparable to those of the WG-7 Blocker and Bracer who applies a knowledge of frequently used agency regulations or practices covering standard, routine blocking and bracing procedures. For example, the WG-7 typically secures stable, standard, containerized cargo in or upon conveyances which have regular, rectangular, unobstructed cargo areas. Responsibility, Physical Effort and Working Conditions required in this job are essentially the same as those in the WG-7 criteria for Blocker and Bracer. Accordingly, the proper grade of this job is WG-7 and it is properly classified as Stevedore, WG-3543-07.

TYPICAL JOB DESCRIPTION

FOR

TILE AND PLATE SETTER, WG-3604-10

I. GENERAL

Installs and repairs hard tile floors, walls, and other surfaces in ships or buildings, using masonry tools, mortar, cement, and various kinds of ceramic tile.

II. TYPICAL WORK PERFORMED

Mixes or directs helpers in the mixing of mortars, adhesives, latex materials, resin base materials, and concrete.

In repair work, removes damaged tile and mortar occasionally replacing damaged base material. Lays bed coat of cement and sets tile in fresh cement in specified patterns, colors, and decorative designs. Presses, rubs, and taps tiles to obtain good alignment and bond. Checks alignment of rows and flatness of surfaces with spirit level and leveling board. Cuts tiles to fit edges and corners. Fills joints between tiles with thin grout and sprinkles with dry cement. Cleans hardened tile surface.

May also lay and repair linoleum of all types, rubber matting, various abrasive non-skid materials, and vinyl tile.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to read and interpret specifications, sketches, written instructions and use shop mathematics necessary in laying out areas, patterns, and designs. Must be able to use such tools as rulers, squares, levels, floats, trowels, screeds, aggregate mixers, mortar hods and hoes, chipping guns, deck scalers, power sanders, scribes, tile saws and tile cutters.

B. Responsibility: Receives assignments from supervisors either orally or through work orders. Reviews work to be performed, interprets blueprints or sketches, and decides work methods or processes best suited to complete work. Performs tasks independently with little or no work direction. Guides and directs helpers in the safe and proper use of tools and equipment.

C. Physical Effort: Work requires frequent stooping, bending, kneeling, reaching, climbing and working in cramped positions. Frequently lifts and carries items weighing up to 90 pounds. May occasionally lift heavier items with assistance.

D. Working Conditions: Works in shop areas and aboard ships and submarines under conditions involving dirt, dust, loud noise, fumes, grease, and oil. Exposed to the possibility of strains, cuts, bruises, falls, burns, and eye hazards from machinery and uneven or slippery walking surfaces.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series for job whose characteristics match this typical job description is Tile and Plate Setter, 3604; and the Office of Personnel Management Standard for Mason, 3603 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The work of this job involving the setting of tiles in specified patterns, colors, and decorative designs and the cutting of tiles to fit edges and corners is comparable in complexity to the work of a WG-10 Mason who cuts and shapes brick, block, and stone and performs decorative brickwork. Both the Mason and the Tile and Plate Setter plan and lay out the work to be done, select the proper tools, determine materials to be used, and accomplish the work in accordance with appropriate methods and accepted trade practices. Both jobs require the use of a comparable variety of blueprints, and rough sketches. Both receive little or no guidance and completed work is only reviewed for compliance with specifications.

Physical Effort and Working Conditions are essentially the same as those in the WG-10 criteria for Mason, 3603. Accordingly, the proper grade of this job is WG-10, and it is properly classified as Tile and Plate Setter, WG-3604-10.

WG-3609-09

TYPICAL JOB DESCRIPTION

FOR

FLOOR COVERER, WG-3609-09

I. GENERAL

Performs installation, alteration, and repair of carpet, carpet cushions, linoleum, and/or similar floor coverings such as asphalt, rubber, or vinyl tile.

II. TYPICAL WORK PERFORMED

Measures areas to be covered. Cuts, fits and places carpet, carpet cushions. Cements or otherwise secures in place after trimming and fitting to wall edges, bases, stairways, projections and/or openings. Creates patterns as necessary or matches existing patterns, maintaining matching lines.

Installs and repairs other floor coverings such as linoleum asphalt, rubber, or vinyl tile.

Fits, cuts, and installs and repairs coverings shown above on desk tops, shelves, work tables.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must read and interpret blueprints, sketches, and specification. Must have layout ability. Must have knowledge of various types of carpets, cushions, linoleum, tiles, and their uses. Must have knowledge of practical mathematics.

Must have knowledge of and be able to use notched trowel, banana knife, pointed trowel, margin (square pointed) trowel, claw hammer, nail puller, heavy duty scissors, T-square, drill, and special tools for carnet installation.

B. Responsibility: Work is assigned by a supervisor orally and through work orders. Work is spot checked while in progress and at completion of assignment. Worker is responsible for use of all safety precautions and is responsible for equipment, tools, materials being worked with and on. Worker determines materials and equipment to be used.

C. Physical Effort: Lifts objects weighing 30 to 50 pounds. Heavier items are lifted and carried with assistance. Work requires climbing, kneeling, stooping, crawling, and working in awkward positions.

D. Working Conditions: Works mostly indoors in dry surroundings; may work outdoors or may work in extreme heat or extreme cold. May work in dusty or noisy areas. Work at times is dirty when spreading some forms of adhesives.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Floor Coverer, 3609; and the OPM standard for Fabric Worker, 3105, is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

Grade 9 fabric workers plan work when detailed specifications are not available and take measurements for articles of various shapes and sizes. They make complicated cutting layouts that involve many pattern pieces and are able to draw individual patterns or alter or adjust standard patterns to fit special measurements. Likewise, the installation, alteration, and repair of carpet required in this job involves creating patterns, cutting, and fitting for a variety of shapes; therefore, the skill and knowledge requirement for this job is of the same level as Grade 9 fabric worker. Responsibility, Physical Effort and Working Conditions required in the job are essentially the same as those in the WG-9 criteria for Fabric Worker. Accordingly, the proper grade of this job is WG-9, and it is properly classified as Floor Coverer, WG-3609-09.

TYPICAL JOB DESCRIPTION

FOR

GLAZIER, WG-3611-09

I. GENERAL

Cuts, fits, repairs and installs different types of glass or plastic in windows, doors and various items of furniture. May also perform incidental preparation and painting of wood, wall board, metal or concrete.

II. TYPICAL WORK PERFORMED

Makes measurements and determines type of glass to use such as plate, single or double thickness, tempered or safety, and anti-glare glass. Removes old glass and putty. Cuts, scribes and grinds glass or plastic, bevels edges using abrasive belts or wheels. Installs glass or plastic using putty, glazing compounds, plastic solvents, glazing points, clips, molding, metal channels, felt and rubber. Uses chemical liquids and colors to match glass colors or repair holes. Where necessary, prepares surrounding surfaces for rough painting by scraping, speckling, sanding, dusting and cleaning. Putties or fills joints, cracks and recesses. Rough paints surrounding area.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to interpret blueprints and sketches and use shop mathematics to lay out glass shapes and frame repairs. Must be familiar with various types of glass, plastic, glazing compounds and paints. Must be able to accurately use shop tools.

B. Responsibility: Supervisor assigns work orally or through general work orders. Responsible for determining the kind and type of materials and tools to be used as well as the appropriate work processes. Supervisor checks completed work for conformance to specifications and trade practices.

C. Physical Effort: Work involves kneeling, sitting and crouching in strained positions or working from ladders and scaffolds. May lift and carry items weighing about 50 pounds.

D. Working Condition: Works indoors and outdoors in areas that may have uncomfortable temperatures, dust, dirt, fumes, noise and unpleasant odors. Exposed to the possibility of cuts or abrasions when cutting or grinding glass.

EVALUATION

Appropriate Title, Series and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Glazier, 3611. The Office of Personnel Management Standard for Carpenter, 4607, is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The WG-9 Carpenter constructs, alters, repairs or modifies items and structures such as framework, doors, windows, rough furniture and interior or exterior trim where accuracy, spacing and fit are essential and structural soundness or appearance are important. The WG-9 Carpenter plans and completes projects from initial lay out to final assembly or installation. These duties are comparable to the work performed by the Glazier since both workers independently lay out their work and determine the kind and type of materials and tools to be used as well as the correct work processes. Both work on items where accuracy, appearance and sound construction are necessary. In addition, both jobs have similiar levels of supervisory control, physical effort and conditions of work. Accordingly, the proper classification of the job is Glazier, WG-3611-09.

TYPICAL JOB DESCRIPTION

FOR

SHIP PROPELLER FINISHER, WG-3701-08

I. GENERAL

Inspects, repairs, straightens, balances, grinds, and sands different types of submarine and surface craft propellers and various associated metal parts to close tolerances or to renew original condition. Checks the pitch, contour, and rake of propeller blades, shaft hubs, and associated metal parts to final finish and close tolerance in accordance with specified requirements.

II. TYPICAL WORK PERFORMED

Inspects the physical condition of various types of submarine and surface craft propellers. Mounts the propeller on a work platform, using an overhead crane or jib boom, and secures it in place. Places a 3 jaw chuck in the propeller shaft hub and attaches a pitchometer to the chuck. Takes measurements from the shaft hub area and center punches reference point indications on the propeller blade. Uses the pitchometer to scribe radius inspection lines at various intervals on the propeller blade. Places a contour gage over the scribed radius line or uses a pitchometer straight rod method if gages are not available, and at various inspection points inserts a feeler gage to take measurements of the contour of the blade. Uses a fillet gage and inspects the area where the propeller blade connects to the shaft hub. Takes measurements of the pitch, rake, and thickness of the blade using special micrometers. Records all measurement information. Works from specifications and makes all indicated repairs such as: having metal cladding added to low areas; removing excess metal from high or built up areas; straightening bent or damaged areas; and removing damaged or unrepairable sections and replacing them with new pieces of metal. Uses a plug gage and checks the interior surface of the propeller shaft hub. Applies a bluing compound to the exterior of the gage and lowers it into the hub, ensuring that it is properly seated. Removes the gage and checks the interior surfaces of the hub for proper seating, and if necessary sands any high spots where improper seating is detected. Repeats this process until 80% of the hub surface comes in contact with the gage. Assists in the balancing of the propeller by removing (i.e., grinding, sanding, etc.) excess material from the blades until the propeller is balanced. Sands or buffs the propeller to achieve the required finish, and files the trailing and leading edges of each blade to required specifications. Applies edge guard protection (i.e., rubberized tape, sheet metal strips, etc.) to each blade and wires them in place.

Performs other duties such as: lays out, shapes, drills and counter sinks screw holes; installs and contour grinds fairing plates to fit the propeller hub tap threads various threaded plug holes; contour grinds threaded plugs after installation; and static balances propellers.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have the ability to read and interpret specifications, blueprints, sketches, work requests, or other similar instructions that pertain to propeller work. Must have a good working knowledge of feeler gages, micrometers, pitchometers, grinders, sanders, hydraulic

presses, thread taps, chipping hammers, files, or other similar tools that are used in propeller work. Must have a working knowledge of: formulas; various types of metals such as bronze, nickle-aluminum bronze, pickle, manganese, or other similar materials used to make propellers; and the trade theory involved with the repair of propellers and component parts.

B. Responsibility: Propeller examination work is generally planned and completed with little or no in-progress checks after receiving oral or written instructions form supervisor. Repair work is performed in accordance with written instructions, and a supervisor is available for advice on problems of an unusual nature. Work is checked and certified upon completion for conformance to work specification and accepted trade standards.

C. Physical Effort: Work involves kneeling, standing, bending, stooping, climbing, reaching and walking. Frequently lifts items weighing 40 to 60 pounds, and occasionally items up to 100 pounds in setting up work and equipment. Must be able to work in cramped or awkward positions.

D. Working Conditions: Work is performed inside a ship, aboard submarines, and surface crafts. When working in a shop environment, work is performed in a well lighted and ventilated area. Submarine and surface craft work requires working on elevated staging and exposure to outside elements. Frequently exposed to areas that are noisy, dirty, greasy, dusty, and have bad smelling fumes. There is a possibility of sprains, bruises, cuts, and burns.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Ship Propeller Finisher, 3701; and the Office of Personnel Management Standard for Machinist, 3414, is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The WG-8 Machine Tool Operator is skilled in performing machining operations on conventional machine tools, following detailed oral or written instructions. Although new jobs are normally set up in the machine, the WG-8 Machine Tool Operator makes minor changes in machine setup such as realigning for different sizes or changes in the shape of the work piece. Incumbent must know when tools are sharp, the coolant flow is adequate; must also know if dimensions are being held, and if fixtures, holding devices, or the entire setup needs adjustment. Incumbent determines at what point the machine should be stopped and adjustments made. This level of skill and knowledge closely matches that required for this job which makes the initial radial station cuts and certifies the gage fit, making repairs in propellers to specifications. Responsibility, Physical Effort, and Working Conditions required in this job are essentially the same as those in the WG-8 criteria for Machine Tool Operator. Accordingly, the proper grade of this job is WG-8, and it is properly classified as Ship Propeller Finisher, WG-3701-08.

TYPICAL JOB DESCRIPTION

FOR

METALIZING EQUIPMENT OPERATOR, WG-3707-10

I. GENERAL

Plans, lays out, sets-up and performs interrelated sequences of plasma flame spray and metallizing operations for reclamation, repair purposes, and design requirements. Metallizing processes are used to build up surfaces and metal parts for restoration to specification. The metallizing process involves spraying atomized molten metal on to a surface by a blast of compressed and ignited gases in which a wire or powdered metal is metered through a special type metallizing gun. After spraying, parts are remachined or ground to specified finishes and sizes.

II. TYPICAL WORK PERFORMED

Sets up the plasma and thermo, and wire type metallizing equipment by determining and making adjustments of the various gages, meters, dials and valves associated with the equipment.

Sprays atomized metals and refractory ceramic coatings using wire and powdered metals such as zirconium oxide, steels, brass, copper, tungsten, titanium, aluminum, molybdenum, tantalum, carbides, nickle, and chrome based alloys, depending on specific functional requirements and physical properties of parts to be metallized.

Prepares parts to be metallized and determines the methods of cleaning and surface preparation required for the metallizing operations such as grit blasting, vapor blasting, vapor degreasing, and localized cleaning.

Masks off areas not to be metallized by using special metal masks, aluminum backed tape, masking compounds and special tool makers ink. Considers angular and axial ranges, designs fixtures when required and operates any of the plasma/metal spray equipment. Prototype operations require specially built fixtures and holding devices. Checks accuracy of work by using micrometers, pyrometers, calipers, depth, height, surface gages and other precision measuring instruments.

Determines types of gases to be used and determines wire and powder feeds, flow rates, and distance of spray gun from work to achieve the best bonding characteristics. Disassembles and cleans spray guns and inspects seals and other critical parts and associated equipment to prevent malfunctions of the equipment.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must possess a thorough knowledge of all plasma/metal spray operations, equipment, and processes and the ability to skillfully perform their application as required to meet scheduled commitments. This includes the use and regulation of oxygen, acetylene, argon, nitrogen, helium, and hydrogen gas under high pressure, as well as a basic knowledge and understanding of the control of electrical currents and voltages. Must be able to use measuring

instruments and hold tolerances to .001 inch. Must be able to read and interpret drawings, sketches, technical data and standards.

B. Responsibility: Works under general supervision. Work is performed independently according to guidelines, directives, and manuals. Completed work is inspected and tested.

C. Physical Effort: The work involves standing, walking, stooping, bending, kneeling, climbing, and crawling. Work may be done in awkward and cramped positions. Incumbents frequently handle objects weighing from 20 to 50 pounds and, occasionally, objects weighing in excess of 50 pounds, in setting up work and equipment and in completing assignments.

D. Working Conditions: The work is done indoors and outdoors, sometimes in bad weather, and in areas that may vary from "clean rooms" to areas that are noisy, dirty, and smoky. Work involves exposure to fumes, infrared and ultraviolet radiation, heat, flying sparks, the glare of torches and heated materials, the possibility of eye injury, electrical shock, burns, broken bones, and the chance of cuts when working with sharp objects.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The standard for Welder, WG-3703, is the most appropriate related standard for grading this job.

Analysis and Findings

The skills and knowledges required are comparable to the WG-10 level of the 3703 standard. WG-10 Welders use accepted trade methods and a variety of processes to weld all types of commonly used metals and alloys of various sizes, shapes, and thicknesses including dissimilar metals such as copper to steel, etc. They must apply a knowledge of welding standards and how various metals and alloys react to different processes and techniques. This compares to the requirement in this job to apply a knowledge of various metals and alloys and their reaction in obtaining proper fusion of the metals. The responsibility also compares with that of the WG-10 level of the 3703 standard in that WG-10 Welders determine the work to be done and what steps are needed to accomplish it. The physical effort and working conditions are identical to the Welder, WG-10.

The appropriate classification of this job is Metalizing Equipment Operator, WG-3707-10.

TYPICAL JOB DESCRIPTION

FOR

HEAT TREATER AND TEMPERER, WG-3712-09

I. GENERAL

With the use of furnaces, baths, high-frequency generators, flame heating devices, and allied equipment employs various heat treating processes and techniques to alter the physical and chemical properties of a wide variety of metals.

II. TYPICAL WORK PERFORMED

From blueprints decides the composition of material from which parts are made and decides proper heat treating processes. The heat treating processes are annealing, hardening, flame hardening, induction hardening, carburizing (pack, liquid, and gas), nitriding, carbonitriding, selective hardening, tempering, stress relieving, drawing, deep freezing, aging, normalizing, furnace brazing and quenching. Makes necessary furnace instrument settings for the correct temperature and time at heat. Sets carbotral instruments for compatibility of dew point of furnace atmosphere to carbon content.

Heat treats castings, forgings, hot and cold rolled bar, sheet stock, weldments, machine tool parts, hard tools, cutting tools, dies, gears, bearings, shafts, etc., either ferrous or non-ferrous.

Places parts in baskets or suspension fixtures to insure uniformity of heating and quenching to minimize distortion or cracking of the parts being processed.

After load is placed in furnace and soaked at proper heat, the parts are quenched in either oil, air, or prepared water mixtures depending on the alloy of the steel. Checks parts for hardness, cracks, or distortion with the appropriate hardness tester and measuring instrument. Spot checks for dimensional conformance, hardness, and determines if parts are crack-free by using dye penetrant test.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a working knowledge of basic metallurgy and the fundamentals of electricity as applied to industrial heating.

Must be able to interpret blueprints and be able to select and use appropriate type of testing equipment, such as: rockwell hardness testers, micrometers, calipers, height gauges, and portable temperature measuring instruments. Must be skilled in the use of simple tools such as pneumatic and hand tools, etc. Must be familiar with pipe fittings. Must know how to operate gas producing atmosphere generators. Must understand how gases are safely produced and introduced to furnaces.

B. Responsibility: Work is performed independently and the finished product is checked by supervisor for conformance to specifications. Sometimes receives advice from metallurgist or electrical engineer. Works under guidance of various publications, MIL standards, and outlines showing how parts are to be processed.

C. Physical Effort: Some hand lifting is necessary of 20 to 30 pounds. Heavy lifting is done by overhead cranes and hand dollies.

D. Working Conditions: Work is performed indoors with adequate light, ventilation and safety controls. May be exposed to burns, shocks, cuts or bruises.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

There is no Office of Personnel Management job grading standard for this series, but the work is closely related to Electroplater, WG-3711, which is appropriate for evaluating this job.

Analysis and Findings

WG-9 is the journey level for Electroplater. At this level electroplaters are skilled at using a variety of processes to accomplish precision and desired finishes on a wide array of metal objects. They use an extensive knowledge of processes to identify basic problems and adapt standard methods to perform work that is new or unusual. This job requires the knowledge of a variety of products made from various metals and alloys. The incumbent must determine from blueprints what process to use to produce the desired product. The work is independently performed, although professionals are available on unique assignments requiring nonstandard processes. The responsibility level of difficulty, physical effort and working conditions are comparable to the WG-9 level of the WG-3711 series.

TYPICAL JOB DESCRIPTION

FOR

STORAGE BATTERY REPAIRER, WG-3725-07

I. GENERAL

Repairs, services and maintains a variety of kinds of batteries such as lead-acid, nickel, cadmium ana silver zinc.

II. TYPICAL WORK PERFORMED

Receives and issues new and recharged batteries. Maintains custody of batteries and attendant records. Checks and evaluates condition of incoming batteries and determines work to be accomplished. Commissions lead acid batteries by filling with proper electrolyte; places on charging rack and observes condition. Performs necessary repair and reconditioning. Discharges and disassembles nickel cadmium batteries and cleans, reconditions, tests and reassembles battery as required. Cleans, inspects and troubleshoots silver zinc batteries, performs preventive maintenance and repairs, and reassembles components, recharges and tests as required. Prepares or adjusts electrolytic solutions for various types of batteries. Inspects battery chargers periodically and performs preventive maintenance. Performs other related duties.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a knowledge of the construction and characteristics of a variety of types of batteries and common causes of malfunctions. Must be able to operate test equipment such as hydrometers, voltmeters, ammeters, ohmmeters, and other equipment and be able to interpret results. Must be able to operate and maintain battery charging equipment. Must know how to mix electrolytic solutions for batteries. Must be skilled in dissassembling, reconditioning and assembling battery components.

B. Responsibility: Established methods and procedures are followed in the inspection, testing, repair and disposition of incoming batteries. Instructions are received from supervisor on new or revised procedures and methods and on matters not covered by guidelines. Work is reviewed for efficiency of repairs and adherence to shop practices and policies.

C. Physical Effort: Occasionally lifts heavy objects such as batteries, chemical containers and test equipment weighing 50 pounds or more. Works in standing, stooping, bending and kneeling positions for prolonged periods. May work in tiring and awkward positions.

D. Working Conditions: Work is normally performed indoors in well-lighted and ventilated spaces although they are moderately dirty and greasy. Hazards include electric shock, burns from acids, and fumes.

EVALUATION

Appropriate Title, Series and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Storage Battery Repairer, 3725; and the Office

of Personnel Management Standard for Electrical Equipment Repairer, 2854 is the most nearly applicable to this occupation for fob grading purposes.

Analysis and Findings

Like the WG-7 Electrical Equipment Worker, incumbents of this job apply established work methods and procedures to repair equipment of rather limited construction complexity. Both must have skill in using common test equipment such as voltmeters and ohmmeters in testing and checking equipment for defects which are relatively easy to find. Both involve disassembly, replacement and adjustment of relatively simple parts and both must exercise a similar degree of experience in judging degree of wear and damage to parts. Responsibility, Physical Effort and Working Conditions required in this job are essentially the same as those in the WG-7 level criteria for Electrical Equipment Repairer. Accordingly, the proper grade of the job is WG-7 and it is properly classified as Storage Battery Repairer, WG-3725-07.

WG-3769-08

TYPICAL JOB DESCRIPTION

FOR

SHOT PEENING MACHINE OPERATOR, WG-3769-08

I. GENERAL

Performs shot peening operations on various aircraft and engine parts and components inducing residual compressive stresses in critical areas to increase fatigue strength and resistance to stress corrosion cracking.

II. TYPICAL WORK PERFORMED

The incumbent sets up, adjusts and operates automatic, manual, stationary and portable shot peening machines and sandblasting equipment. Works from blueprints, overhaul manuals, engineering instructions and locally developed procedures, which specify areas to be peened, shot size, shot type and intensity of peening. Determines shot speed, quantity of shot thrown per second and angle of impact for each particular job. Shot peens critical stress areas on a variety of aircraft and engine parts such as aircraft wing surfaces, turbine shafts, and landing gear struts. Masks aircraft and parts as required to expose only the area to be peened. Determines intensity and duration of shot peening required to meet specifications. Receives and organizes work for shot peening to best meet production schedules, considering such things as priorities, change-over time from one size shot to another, and equipment adjustments. Shot peens parts using information from test runs. Makes test runs to insure that shot peening operations comply with specifications. Cleans and performs minor maintenance on shot peening machines and maintains working area in a neat and orderly condition.

III. FACTOR STATEMENTS

A. Skill and Knowledge: The incumbent must have a thorough knowledge of the setup and operation of automatic, manual, stationary, and portable shot peening machines. Must have the ability to read and understand engineering instructions to determine areas to be peened. Must be able to determine shot size, type of shot, shot hardness, shot speed, quantity of shot per second and angle of impact and the necessary equipment adjustments.

B. Responsibility: The incumbent is under the general supervision of a supervisor who assigns work orally or through work orders. Interprets work specifications to determine the type and extent of shot peening required and is responsible for the completed work conforming to tolerances of specifications. Is responsible for correct operation and minor maintenance of shot peening machines. Notifies supervisor of machine malfunctions and requirements for servicing. Designs simple work holding fixtures. The supervisor provides technical assistance and insures that overall work meets specifications and accepted trade standards.

C. Physical Effort: Work requires standing, stooping, bending, and reaching. Incumbent frequently handles objects weighing up to 10 pounds and occasionally objects weighing up to 50 pounds. Hoists, hand trucks, lifts, and other workers are available to assist with heavier items.

D. Working Conditions: Works inside in areas that are usually noisy and dirty, and where there is some danger to the skin and eyes from metal chips, abrasive particles, etc., and danger to fingers, hands, and other parts of the body from cutting tools, grinding wheels, rotating work pieces and moving parts of machines.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs where characteristics match this typical job description is Shot Peening Machine Operator, 3769, and the Office of Personnel Management Standards for Sandblaster, 5423, and Machinist, 3414, are the most nearly related to this occupation for job grading purposes.

Analysis and Findings

A WG-7 Sandblaster uses diversified portable sandblasting equipment to remove rust, scale and dirt from metal surfaces. While akin to sandblasting, shot peening, requires a higher level skill because it is a process for working the metal itself, in order to improve the stress resistance, rather than simple cleaning as in sandblasting. Additionally, this job requires setting up, adjusting, and operating shot peening machines which are comparable to the kind of machines used by a Machine Tool Operator. A WG-8 Machine Tool Operator performs limited machine set-ups and repetitive machine tool work to specifications requiring the same level of skill and knowledge required to perform shot peening to specifications. Also, the Responsibility, Physical Effort, and Working Conditions required in this job are essentially the same as those in the WG-8 criteria for Machine Tool Operator. Accordingly, the proper grade of this job is WG-8, and it is properly classified as Shot Peening Machine Operator, WG-3769-08.

TYPICAL JOB DESCRIPTION

FOR

METAL FABRICATOR, WG-3801-10

I. GENERAL

Lays out, fabricates and assembles structures by welding, riveting, bolting and working with a variety of steel and alloys ranging in thickness from 1/8" up.

II. TYPICAL WORK PERFORMED

Lays out work from blueprints, sketches or oral instructions. Selects the most effective method of fabrication or repair. Cuts material using a variety of tools such as shears, saws and torches. Drills, bends and shapes parts using presses, rolling machines, brakes, benders, air hammers and other fabricating equipment. Prepares work to be welded with files, grinding wheels, sanders, scalers or beveling machines. Uses electric, mig and oxy-acetylene welding equipment to weld, solder or braze material. Uses pneumatic hammers to rivet material where required.

Fabricates and repairs a variety of items such as building supports, towers, platforms, fire escapes, pipelines, boilers, ladders and guard rails using material such as I and H beams, channel and angle iron, pipes, plates and bars.

III. FACTOR STATEMENTS

A. Skills and Knowledge: Must have a broad knowledge of processes used in the fabrication and repair of steel structures and be skilled in the interpretation of blueprints and operation of standard metal fabrication machinery and tools. Must have a working knowledge of the characteristics of various types of metals and be able to employ structural members to their best advantage.

B. Responsibility: Works under general supervision. Work is inspected by the supervisor upon completion for adherence to specifications and accepted trade practices. Written guides are available in the form of blueprints, drawings and job specifications.

C. Physical Effort: Work requires lifting, pushing and pulling material into position. Cranes or other moving devices are available to move and position material or equipment weighing over 50 pounds. Work requires considerable effort in hammering and shaping hot and cold metal for extended periods of time.

D. Working Conditions: Worker is subject to strains, cuts, abrasions and burns and is exposed to noise, vibration, flying metal chips, welding fumes and dirt. Heating, illumination and ventilation in the shop are usually adequate.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Metal Fabricator, 3801. The Office of Personnel

Management Standard for Sheet Metal Mechanic, 3806 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

A WG-10 Sheet Metal Mechanic develops patterns and lays out, cuts, forms, joins, assembles and installs a variety of items which combine straight and curved edges or irregular curves and planes. The Metal Fabricator performs essentially the same work on a variety of items constructed of steel, iron or alloy beams, pipes, plates and bars. Both artisans are required to independently complete a project according to specifications by utilizing a variety of metal fabricating tools, machines and processes. Both work on items which present complex configurations and angles. Since both jobs have similar levels of Responsibility, Physical Effort and Working Conditions, this job is correctly graded as WG-10 and is properly classified as Metal Fabricator, WG-3801-10.

TYPICAL JOB DESCRIPTION

FOR

SHIPS TANK TESTER, WG-3801-10

I. GENERAL

Conducts hydro, air, and air-freon tests to certify the water-tight integrity of ships' compartments, tanks, hulls, and adjacent piping, valves, ventilation and electrical systems. Checks and tests tanks and compartments. Has responsibility for water-tight integrity of ships leaving drydocks.

II. TYPICAL WORK PERFORMED

Working from job orders and blueprints, completely checks out tanks and compartments following installations and repairs. Prepares a list of deficiencies and makes necessary arrangements for correction of defects. Conducts strength and tightness tests in accordance with prescribed testing procedures. Water, air or air-freon is pumped into the interior of the tank while incumbent inspects for leaks by observing pressure drops on gages and examining structural surface for escaping air. Incumbent tags all compartments and tanks under test.

During undocking operation incumbent is on ship to inspect areas which have been repaired to assure water tight integrity of ship's hull, sea chests, and tanks. If leaks are discovered, incumbent makes appropriate reports so that proper remedial action can be taken.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to operate a wide variety of test equipment. Must be able to follow test and inspection procedures. Must be able to diagnose malfunctions and recommend corrective action. Must be able to interpret blueprints. Must be able to use a wide variety of hand tools. Must be familiar with ships' piping, ventilation, and electrical systems.

B. Responsibility: Independently carries out written and oral instruction. A supervisor is available for guidance and assistance when required. Work is subject to occasional spot checks for accomplishment. Incumbent has responsibility to assure that tests are proper, efficient and timely.

C. Physical Effort: Work is usually performed in a standing position, but extensive reaching, bending, walking, stooping, and kneeling are required. May be required to lift up to 50 pounds.

D. Working Conditions: Work is performed on ships, frequently in open spaces, but may be required to work in confined spaces. May be subject to fumes, oil, dirt, and grease. May have to work in tanks under pressure up to 15 psi.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Ships Tank Tester, 3801; and the Office of Personnel Management Standard for Inspector is the most applicable to this occupation for job grading purposes because the primary responsibilities of the job involve examining/testing tanks repaired or in need of repair for acceptability, which are similar to Inspector duties.

Analysis and Findings

The job grading standard for Inspector provides three factors for evaluation. The duties of this job are comparable to Situation B of Factor I, which covers inspection of manufactured or repaired products that have a variety of interconnecting parts, components, and assemblies. Level II is the best match for Factor II because the supervisor is available but there is little technical assistance during the course of the assignment. For Factor III, Degree B is the appropriate match because standard procedures and measuring (testing) devices are used. WG-10 is the grade level for Situation B, Level II and Degree B. Accordingly, the proper grade of this job is WG-10, and it is properly classified as Ships Tank Tester, WG-3801-10.

TYPICAL JOB DESCRIPTION

FOR

SHEET AND PLATE METAL WORKER, WG-3801-l1

I. GENERAL

Lays out, fabricates, assembles and installs prototype or experimental parts and equipment made from various types of ferrous and non-ferrous metals and alloys. Uses a wide variety of hand tools and power machines for such processes as bending, forming, fitting and welding. Works with many different commercial stock shapes and forms varying from light gauges to heavy plate thicknesses.

II. TYPICAL WORK PERFORMED

Lays out work from blueprints, sketches, specifications and oral instructions. Locates and marks reference points on raw stock, using geometry and trigonometry to lay out stock in such a manner that it will bend and shape into the required three-dimensional parts. Develops templates, jigs, fixtures and forming molds or dies as needed.

Cuts sheet, plate, bar stock and structural shapes to size using various types of hand or power shears, saws, nibbling machines and flame cutting equipment. Raises, shrinks, stretches and planishes metal as required. Shapes and finishes parts using hand tools, spinning lathes, edge planners, punch presses, hydraulic presses, drill presses, various types of-bending and forming rolls, power brakes and pipe and rod benders. Fits parts and assembles them by various welding processes, soldering, brazing, bolting or riveting. Anneals and relieves stresses with torch or furnace. Works to close tolerances. Works with a wide range of metals and alloys such as stainless sheet steel, plate steel, brass, copper, bronze, aluminum, titanium, magnesium, molybdenum, beryllium copper, zinc, tin, nickle silver, cadmium, nichrome, platinum and others. Stock ranges in thickness from very light sheet metal to heavy plate.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to read and interpret blueprints, sketches and specifications. Must be able to lay out, fabricate and assemble prototype or experimental parts. Must be able to shape and finish parts using hand tools and a variety of sheet metal machinery. Must have knowledge of a variety of metals and alloys. Must have knowledge of welding and heat treating.

B. Responsibility: Receives assignments with a minimum of accompanying information concerning the methods to be used. Works closely with project engineers providing original ideas and suggestions related to the fabrication of non standard parts.

C. Physical Effort: Work requires handling long lengths of bar stock, metal plate and heavy parts and castings by means of cranes, hoists and the help of other workers. Also requires frequent kneeling, bending, crouching and climbing.

D. Working Conditions: Most work is performed indoors under conditions involving dust, noise, and vibrations. Occasionally works outdoors and is exposed to all

types of weather conditions. Exposed to welding flashes, burns, cuts, sprains, electric shocks, and bruises.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series for jobs whose characteristics match this typical job description is Sheet and Plate Metal Worker, WG-3801, and the Office of Personnel Management Standard for Sheet Metal Mechanic, 3806 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

This job is comparable to the work of a WG-11 Sheet Metal Mechanic, who uses ingenuity and imagination to lay out, construct, assemble and install one-of-a-kind items for a one-time project or in support of experimental or testing activities. Both jobs require a thorough knowledge of metals. Responsibility, Physical Effort and Working Conditions are essentially the same for both jobs. Accordingly, the proper grade of this job is WG-11, and it is properly classified as Sheet and Plate Metal Worker, WG-3801-11.

TYPICAL JOB DESCRIPTION

FOR

FLANGE TURNER, WG-3807-l0

I. GENERAL

Flanges, shapes, joggles and straightens all types and sizes of hot and cold metal plates and shapes used in the construction, repair and overhaul of ships. Works from lay-out markings, templates and mock-ups and uses gas ovens, hand heating torches and power bending machines such as beveling machines, stationary, horizontal and vertical hydraulic presses, portable rams, and a variety of special heavy hand bending tools.

II. TYPICAL WORK PERFORMED

Plans work. Studies wooden templates, mock-ups and marked plates and shapes received from allied trades to determine whether hand or machine methods are to be used and the need for jigs, metal mock-ups, or special hand tools. Determines whether plates or shapes must be heated in the oven, or heated at specific points by a hand heating torch, or whether it may be bent and shaped cold, basing decisions on the size and thickness of the plate or shape.

Constructs steel forms around which plates and shapes are to be shaped. Selects, measures and marks stock for bending. Requests assistance of allied trades to cut stock to size. Hand shapes parts of form and assembles them into three-dimensional form with the aid of a Welder. Obtains fabricated forms from stock if part to be shaped is similar to parts that have been previously shaped.

Heats plates or shapes to workable temperature in gas furnace. Ignites oven and adjusts gas and air valves to produce desired flame. Visually determines by color when the work piece is properly heated and removes it from oven using hand tongs, grasping dogs and a power winch. Works rapidly to obtain shapes while piece is hot to avoid having to reheat it.

Shapes large and small plates in a hydraulic press. Sets and aligns standard male and female dies. Positions plate on press bed and lowers male die to shape plate to form of female die. Shapes odd shaped plates over form. Positions plate on form.

Directs the raising and dropping of heavy weight (dumper) on plate until plate is shaped to contour of form. Bends and shapes structural metal shapes such as angle bars, tee bars, channels and eye beams by using a beveling machine or a hand beveling bar to increase or decrease the angle of the shape. Joggles structural shapes and plates by placing a block or form under the shape or plate corresponding to the length and depth of the specified joggle and aligns joggle lay-out marks to the block or form. Secures and applies pressure using a hydraulic press.

Straightens structural shapes and plates by placing cold or heated distorted metal shapes or plate on horizontal or vertical hydraulic press. Operates hydraulic press to lower male die for purpose of straightening, intermittently checking work with a straight edge. If it is not feasible to use, hydraulic press for straightening, places and secures the distorted shape or plate on

bending slab and smooths metal shape or plate by moving a flatter over areas to be straightened.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must know how to operate gas heating furnaces. Must be able to recognize when heated metal plates or shapes are ready for forming by noting their color in furnace. Must be able to identify the various kinds of metals used by visual inspections and spark tests. Must have knowledge of heating and bending characteristics of metal used in the construction, overhaul and repair of ships. Must know the methods and procedures used in the bending and shaping of ship structural plates and shapes. Must know shipbuilding terms and nomenclature. Must understand and be able to work from templates, mock-up molds and lay-out markings. Must know how to operate and set up various types of bending and shaping machines such as joggling machines, power presses, beveling machines and portable hydraulic rams. Must be able to operate various types of lifting and pulling machines such as hydraulic electric hoists, winches and chain falls. Must know how to use hand tools such as hand heating torches, hammers, fullers, flatters, chisels, tongs, hold down dogs, moonbars and beveling bars. Must know how to fabricate steel templates and steel mock-ups, working from wooden templates and wooden mock-ups furnished by the mold loft. Must know how to use measuring and marking tools such as rules, squares, straightedges, chalk lines, soap stones, center punches, mauls and sledge hammers. Must have some knowledge of rigging.

B. Responsibility: Usually works alone or as part of a small group under general supervision, carrying out standard assignments independently and special assignments in accordance with specific instructions. Work is subject to spot checks while in progress and inspection upon completion. Incumbent is responsible for choosing the kind and quantity of materials required and the procedures and methods to follow.

C. Physical Effort: Frequently lifts, pulls, pushes and carries heavy parts, tools and equipment weighing up to 50 pounds. Lifting devices are available for lifting heavier items. Walks or stands continuously. Frequently stoops, kneels, and crawls. Climbs ladders.

D. Working Conditions: Usually works inside a shop but is required to work on ship structures exposed to weather conditions. May be exposed to unpleasant conditions such as vibration, excessive noise, fumes, flying particles, welding flashes, dust, dirt, and is subject to injuries such as bruises, cuts, shocks, and burns. Must wear various protective devices such as gloves and hard hats.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Flange Turner, 3807. The Office of Personnel Management Standard for Shipfitter, 3820 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

Flanging, shaping, joggling and straightening metal plates and shapes require the same level of skill and knowledge as that required of a WG-10 Shipfitter,

who modifies, fabricates, repairs, assembles, and installs various metal structural parts of ships. WG-10 Shipfitters must have the same type of knowledge as Flange Turners, i.e., blueprint reading, mechanical drawing and other knowledge required to develop and lay out patterns, as well as knowledge of the practices, processes, and materials required in fabricating structures. Responsibility, Physical Effort, and Working Conditions required in this job are essentially the same as those in the WG-10 criteria for Shipfitter, 3820. Accordingly, the proper grade of this job is WG-10, and it is properly classified as Flange Turner, WG-3807-10.

TYPICAL JOB DESCRIPTION

FOR

PNEUMATIC TOOL OPERATOR, WG-3815-08

I. GENERAL

Applies caulking and chipping knowledges and skills to work situations in shops and on board ships. Uses a variety of hand, pneumatic and associated tools to calk, chip, grind, and test steel and other metal structures.

II. TYPICAL WORK PERFORMED

Works from blueprints, specifications, and job orders. Uses a variety of pneumatic hammers and associated chisels; cuts, trims, bevels, scarfs, and grinds various metals to different sizes and shapes.

Prepares edges for calking and calks butts, seams, rivets, and joints by splitting and setting metals of all types to make them air and water or oil tight.

Assists Ships Tank Tester to accomplish pressure tests of voids, tanks, compartments and other ship structures. Performs minor air and water hose tests.

Work in the riveting crew requires bucking, passing, drilling, and heating rivets.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Applies substantially full range of basic knowledge and skills of the trade to perform the work described under section II. Reads blueprints, job orders, specifications, sketches and must have a familiarity with related trades' operations such as Shipfitter, Riveter, Machine Tool Operator, and Ships Tank Tester.

B. Responsibility: Usually works alone or as part of a team under general supervision, carrying out standard assignments independently and special tasks in accordance with specific instructions. Work is subject to spot checks in progress and inspection upon completion. Is responsible in determining the kind and quantity of materials required to accomplish the work without undue waste, and the necessary sequences and procedures to follow in order to produce quality work within specified time requirements. Is also responsible for following safety rules and regulations and for the proper and safe operation of tools and equipment.

C. Physical Effort: Must be able to lift and carry weights up to 75 pounds at frequent intervals; heavy exertion is required. The work requires kneeling, crouching, stooping, climbing, cramped or awkward positions. Other physical requirements include visual acuity, close hand-eye, or hand-eye-foot coordination, finger dexterity, and a high degree of rapid mental and physical coordination

D. Working Conditions: Works indoors, outside and aboard ships, occasionally under conditions involving dust, dirt, vibrations, loud noise, poor ventilation,

poor illumination, fumes and unpleasant odors, but normally under favorable weather conditions. Works aboard submarines in extremely crowded spaces in awkward overhead and other cramped positions.

EVALUATION

Appropriate Title, Series and Cross Reference Standards

Since the basic function of this job involves the calking and chipping of metal, usually iron or iron alloys, the appropriate title and series allocation is considered to be Pneumatic Tool Operator, WG-3815. The standard which is most nearly applicable for job grading purposes is Sheet Metal Mechanic, WG-3806.

Analysis and Findings

It is readily obvious that this job does not involve the application of skills and knowledges of the level necessary to perform at the WG-10 level as depicted in the 3806 standard. Work at this level requires the full range of skill and knowledge necessary to fabricate relatively complex items of sheet metal through the use of radial and parallel line development, significant mathematical computations, operation of a full range of metal forming machinery, and the use of complicated measuring instruments. Rather, in this job, the work compares favorably with the complexity depicted at the WG-8 level at which the employee performs relatively simple operations, uses non-complex hand and power tools, and works from clear-cut work orders and instructions to cut and form or otherwise manipulate metals. Accordingly, the proper grade of this job is WG-8 and it is properly classified as Pneumatic Tool Operator, WG-3815-08.

ADDENDUM - EVALUATION BY OFFICE PERSONNEL MANAGEMENT

The following is a synopsis of an OPM evaluation of a job similar to the one described in the typical job description.

This position uses a variety of hand and powered tools (pneumatic hammers, chisels and grinders) to calk, chip, grind and otherwise change the shape, size, or condition of metals. The work is performed in accordance with blueprints, specifications, and job orders; it supports craft work performed by shipfitters, riveters, machine tool operators, and other metal-oriented trades. The incumbent works under general supervision; carries out standard assignments independently and special tasks in accordance with specific instructions; determines the kind and quantity of materials required to accomplish the work without undue waste and the necessary sequences and procedures to follow in order to produce quality work within specified time requirements.

Work performed by the Calker and Chipper appears comparable to that described for the WG-8 level of the Mobile Equipment Metal Worker, WG-3809. Grade 8 mobile equipment metal workers straighten, knock out dents and creases, weld small cuts and holes, and smooth, fill, sand and finish damaged body components using such tools as dolly sets, hammers, grinders, sanders, and gas and electric arc welding equipment. Grade 8 workers must have a basic knowledge of mobile equipment construction and know how various components and parts are installed, i.e., bolted, soldered, riveted or welded. They are skilled in the use of such trade equipment as dolly sets, hammers, grinders and sanders. Grade 8 workers receive clear cut work orders and use predetermined work methods, materials and equipment. Their work is spot checked in progress and inspected upon completion

for compliance with instructions and adherence to established practices and standards.

TYPICAL JOB DESCRIPTION

FOR

RADIATOR REPAIRER, WG-3858-08

I. GENERAL

Removes, repairs, and installs radiators and fuel tanks on all types of automotive, heavy duty, material handling equipment.

II. TYPICAL WORK PERFORMED

Checks radiators for leaks, condition of core, and determines type of repairs needed. Uses acetylene torch in soldering, welding, and brazing radiators. Submerges radiator in cleaning vat and boils out all foreign matter. When this procedure fails to correct flow-through problem, removes upper or lower radiator tank and rods out core. Removes damaged radiator tanks from core and straightens, repairs, aligns, and reinstalls. Fabricates and installs shrouds when required. Perform leak tests on radiators and refinishes exterior when repairs have been completed. Steam cleans and purges fuel tanks. Repairs defective tanks soldering, welding, or brazing.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have knowledge of automotive, heavy duty and material handling equipment cooling systems and be familiar with the principles of internal combustion engines. Must have knowledge of flow-through test procedures, be able to read specifications and sketches, and be able to use a variety of hand and power tools required in radiator and fuel tank repair.

B. Responsibility: Work is performed in accordance with instructions provided by supervisor and shop repair orders. Supervision is general, but more detailed guidance is provided on unusual cases. Work is spot checked to assure proper standards are met.

C. Physical Effort: Work requires frequent lifting of items weighing up to 50 pounds. Items weighing more are moved with either mechanical or human assistance. Standing, stooping, crouching, crawling, pushing, and pulling are required.

D. Working Conditions: Work is performed primarily indoors but some outdoor work may be required. The repairer is exposed to noises, unpleasant odors, fumes, smoke, dust, molten metals, caustic solutions, and acids. Subject to hazards such as cuts, burns, bruises, etc.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

Jobs whose characteristics match this job description are titled Radiator Repairer, 3858. The most closely related office of Personnel Management Standards are Equipment Cleaner, 7009 and Sheet Metal Mechanic, 3806.

Analysis and Findings

Cleaning radiator cores is best evaluated by the Equipment Cleaner Standard. This function equates to the WG-05 level where the worker totally removes corrosion, rust, and dirt and is concerned with the condition of the equipment after cleaning. The WG-05 worker cleans a variety of equipment using pumps, scrapers, steam cleaning equipment, immersion vats and tanks.

Radiator repair and the fabrication and installation of shrouds are evaluated by the Sheet Metal Mechanic Standard. At the WG-08 level, the worker plans, lays out, constructs and installs a wide variety of articles such as deflectors, pans, containers, metal furniture and other cylindrical, square or rectangular objects. These objects have predominantly straight and curved single and double-hem edges with single, double, or grooved seams. The WG-08 worker cuts and forms metal. Parts are assembled by seaming, bolting, riveting, welding, or soldering. Work is closely supervised. The work of the Radiator Repairer is limited in variety and is repetitive. In this respect the WG-08 Sheet Metal Worker criteria exceeds the characteristics of this job. The lack of variety, however, is offset by the requirement for radiator repair work to be performed with a higher degree of independence than that described as appropriate for the WG-08 Sheet Metal Worker. Accordingly, the overall characteristics of this job substantially match the WG-08 level and is properly classified as Radiator Repairer, WG-3858-08.

TYPICAL JOB DESCRIPTION

FOR

GRAPHIC ARTS MECHANIC, WG-4101-10

I. GENERAL

Designs, lays out, and makes decalcomanias, name or instruction plates, rubber stamps, illustrative, and other material. Reproduces material by photolithographic, photoengraving, silk screen processing and other reproduction methods.

II. TYPICAL WORK PERFORMED

Determines size, style, and type of lettering, color harmony, proportion, and other details from examination of blueprints samples, specifications, or generalized requirements. Prepares illustrative material and copy to be reproduced, using precision drawing instruments, conversion rules, color charts, lettering pens, lettering guides, a vari-type headliner machine or other related equipment. Applies appropriate ink, lacquers, oil, or water colors, using ruling pens, pencils, spray guns, or brushes. Modifies design and technique depending on reproduction process to be used. Prepares line, continuous tone, and half tone negatives or positives prior to silk screen or photo-engraving processes, arranging copy and lights, operating the camera or printing frame to make the exposure, mixing chemicals, developing the negative or positive, and retouching it as required.

Prints decalcomanias or applies multi-colored layouts to instrument dials and instruction or nameplates by the silk screen process, preparing, exposing, developing light sensitive tissue, or cuts stencils by hand, cutting paper stock on a power cutter, mixing and blending pigments and thinners to obtain the desired colors, adjusting, operating the silk screen equipment, and using a drying oven when indicated. Reproduces names or instructions on metal plates and makes rubber stamps by the photolithographic or acid etch process; coats metal plates with enamel or lacquer finish and bakes them in oven when indicated. Refinishes instrument dials, name and instruction plates, and miscellaneous parts; removes old finish, cleans and refinishes, using luminous paint when specified. Operates and maintains all types of equipment used in a graphic arts shop. May prepare lithographic plates for offset printing, using photo-engraving process; may operate offset press. May set up type and operate a multigraph machine to duplicate paper forms and printed material. Operates paper driller and cutter, collating and binding sheets to produce pamphlets, brochures, and booklets. May operate machines to encase cards or photographs in plastic.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a thorough knowledge of graphic arts reproduction, silk screen process printing and photoengraving

processes. Must be skilled in the use of a variety of photosensitive materials and the mixing of developers, fixers, and hardeners. Must have a knowledge of color and layout composition and be skilled in the use of various paints, pastes, thinners, and inks. Must be able to set up, operate, and maintain varitype headliner, copy camera, photo enlarger, contact printer, photographic step and repeat film printer and other related equipment. Must be able to plan work and select appropriate work methods to produce desired results. Must be skilled in the use of precision drawing instruments, artists brushes, ruling pens, pencils, stencil knives, etc. Must have a working knowledge of basic arithmetic and geometry, and be able to read and interpret blueprints and specifications.

B. Responsibility: Assignments are received orally or in writing from the immediate supervisor. Projects are planned and carried out with little or no supervision, but may be subject to spot check in progress. Completed work is reviewed primarily in terms of overall results but may be spot checked for quality and adherence to specifications. Incumbent may assist in training and guiding lesser skilled workers.

C. Physical Effort: Work requires standing, kneeling, reaching, bending, and continual arm movement. Frequently lifts and carries weights up to 50 lbs. for short distances. The job requires good vision and color perception, good eye-hand coordination and finger dexterity.

D. Working Conditions: Work is performed in a well-lighted, well-ventilated shop area. May be exposed to chemical or acid burns in metal engraving processes, and may be subjected to unpleasant odors, noise and dust.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Graphic Arts Mechanic, 4101; and the Office of Personnel Management Standard for Sheet Metal Mechanic, 3806 is appropriate for job grading purposes.

Analysis and Findings

According to the 3806 standard, WG-10 level mechanics develop and layout, cut, form, join, assemble, and install items and systems such as heating, air-conditioning and ventilation pipes, conduits, and other items and systems with "irregular curves, angles, and pitch." Although the job is somewhat weaker in terms of the layout process, the skill and knowledge required to plan and perform the variety of tasks needed to complete projects substantially equates to the WG-10 level. The proper grade of this job is WG-10 and it is properly classified as Graphic Arts Mechanic, WG-41Ol-10

Note: The Sign Painter, 4104 occupation encompasses many of the skills found in the Graphic Arts occupation. Jobs which do not substantially match this Typical Job Description should be carefully analyzed to determine if the Sign Painter or other occupation may be more appropriate.

TYPICAL JOB DESCRIPTION

FOR

CERAMICS WORKER, WG-4301-08

I. GENERAL

Operates a ceramics shop, providing guidance to shop patrons in all aspects of ceramics work. Orders, stocks, and sells a full variety of ceramics supplies to shop patrons. Maintains required shop records.

II. TYPICAL WORK PERFORMED

Operates a ceramics shop with full responsibility for all technical aspects of ceramics work. Demonstrates and monitors the proper use of tools, molds, and materials in the production, by patrons, of a wide variety of ceramic items. Demonstrates proper pouring and molding techniques. Establishes schedules for the firing of shop kilns, operates the kilns, and fires the objects molded by patrons. Assures the proper firing items and temperatures by personal monitoring or by notification of others of proper times to cut off power supply to kilns. Performs demonstrations and gives lectures regarding proper techniques in the art of ceramic work. Assures that all shop equipment is maintained in good working order by daily observations.

Orders supplies for shop use or resale to patrons, e.g., paints, clays, glazing materials, instructional materials, molds, tools, etc. Shelves supplies, maintains inventory records, sells supplies to users, receives cash, records sales, and assures delivery of all cash and records to bookkeeper. Issues shop equipment for patron use in shop and assures that equipment issues are recorded and that equipment is returned to storage when not in use.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be thoroughly trained in all aspects of ceramics work involved in small scale production of hand crafted ceramic items. Must know and understand various pouring and firing techniques. Must be able to select proper firing time and temperature for a wide variety of items. Must know and understand all safety regulations involved in ceramic shop operations. Must have the ability to maintain adequate stock and stock records and be able to account for all cash receipts. Normal hearing and sight are required but correction of either is acceptable.

B. Responsibility: Supervision is provided by a higher level employee and is general in nature. Technical supervision is provided only in extremely unusual situations and the incumbent operates with a high degree of independence in the operation of the ceramics shoe.

C. Physical Effort: Lifting of items is normally limited to 50 pounds unassisted. Assistance is provided for items in excess of 50 pounds. Physical effort is light to moderate during normal work cycle.

D. Working Conditions: Work is performed inside a shop area which is clean and adequately heated, lighted, and ventilated. Exposure to such hazards as burns is present.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series for jobs whose characteristics match this typical job description is Ceramics Worker, 4301; and the OPM Standard for Baker, 7402 is appropriate for job grading purposes.

Analysis and Findings

The WG-7402 standard employs two depicted grade levels WG-5 and WG-8. The WG-5 level involves work which is routine and closely directed. This job involves a full range of fairly complex work performed independently. At the WG-8 level depicted work involves a full range of products the production of which requires a full technical knowledge of such things as ingredient combination, baking times, baking temperature, decorating, and finishing. Work at this level is performed with a high degree of independence. These characteristics correspond well with those of the job. Accordingly, the proper grade of the job is WG-8, and it is properly classified as Ceramics Worker, WG-4301-08.

TYPICAL JOB DESCRIPTION

FOR

PLASTIC MOLDER, WG-4351-10

I. GENERAL

Performs all types of plastic molding operations. Selects materials, prepares compounds, sets up molding machines, diagnoses and remedies causes of failures or defects. Finishes molded parts using hand and power tools.

II. TYPICAL WORK PERFORMED

Mixes and blends plastic compounds, dyes, binders, fillers, hardeners and catalysts to obtain the desired composition and color.

Sets up injection molding machines by installing and aligning molds and cooling lines; adjusting machine for mold travel and mold ejection; setting heat, timing and pressure controls; loading hopper and adjusting feed mechanism. Selects mold release agent. Makes test runs, diagnoses and eliminates causes of failure.

Sets up compression molding machine by adjusting hydraulic press installing and aligning molds; adjusting press travel and parts ejection; setting correct operating cycle, times and pressure. Also sets up extrusion molding machines by installing and adjusting dies setting heating, pressure, feed and conveyor controls. Makes test runs, diagnoses and corrects causes of failure.

Finishes molded plastic parts by trimming, buffing, polishing, drilling, reaming and threading.

Maintains and makes minor repairs to machinery.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have an extensive knowledge of the working properties of a wide variety of plastics and related compounds. Must be familiar with the set up and operation of various plastic molding machines and finishing equipment. Must be able to diagnose and correct common and unusual problems involved in the formulation and manufacture of plastic and components.

B. Responsibility: Receives assignments through work orders, plans, specifications and drawings. Independently plans and lays out the work with a view toward using the most efficient and economical means possible. Completed work is subject to spot check for conformance with specifications and trade practices.

C. Physical Effort: Work requires standing, stooping, bending and reaching. Carries material and equipment weighing up to 50 pounds.

D. Working Conditions: Usually works in a heated and well lighted shop. Exposed to noise, dirt, fumes and potentially toxic and flammable chemicals. May be subject to cuts, bruises and burns.

EVALUATION

Appropriate Title, Series and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Plastic Molder, 4351. The Office of Personnel Management Standard for Plastic Fabricator, 4352 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

At the WG-10 level Plastic Fabricators apply a thorough knowledge of the full range of low pressure shaping, forming and casting techniques in order to plan and lay out a variety of plastic products. They independently plan operations and select the proper compounds and tools with a view toward using the most efficient and economical means available. This level of work is comparable to the level of skill, knowledge and responsibility required of the Plastic Molder to independently perform the full range of high pressure molding, diagnosing and correcting material and equipment failures where necessary. Since both jobs have essentially the same levels of Physical Effort and Working Conditions, the correct grade for this job is WG-1O and it is properly classified as Plastic Molder, WG-4351-10.

Explanatory Note

This typical job description applies to employees who must have an extensive knowledge of a variety of plastics, related compounds and molding equipment. They are able to diagnose and correct both common and unusual problems in the formulation and manufacture of plastic items. Duties which are primarily limited to the operation of specific molding equipment with responsibility for only relatively simple, non-problem set ups should be classified as Plastic Molding Worker, WG-4351-08.

TYPICAL JOB DESCRIPTION

FOR

RUBBER WORKER, WG-4360-09

I. GENERAL

Compounds and processes a variety of ingredients to obtain bulk rubber that meets the required characteristics. Fabricates and repairs rubber products and accessories such as hoses, cable, tubes, sheets and a variety of molded items. Forms rubber products or applies rubber to other materials.

II. TYPICAL WORK PERFORMED

Manufactures bulk rubber which meets desired characteristics by measuring and compounding natural and synthetic rubber, pigments and other materials. Mixes ingredients in rubber milling machines, adjusting rollers, steam volume and milling to get a homogenous mix of uncured rubber. Passes mix through a calendar mill to form rubber sheets.

Manufactures molded or extruded items using equipment such as calendar mills, extruders or presses. Selects appropriate molding, curing or extruding dies; sets up machines by adjusting rollers, speed, stock feed, steam, water and automatic controls; operates machines and feeds stock. Vulcanizes rubber items by heating or placing in a curing solution.

Coats objects and material with rubber by fixing and bonding rubber sheets to them or by spraying, painting or dipping. Repairs a variety of rubber items.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Work requires familiarity with the properties and characteristics of all types of natural and synthetic rubber and a variety of other compounding materials such as adhesives, urethanes and neoprenes. The worker must be able to apply this knowledge and standard trade practices and techniques to accomplish the manufacture and repair of a variety of rubber items to close tolerances. The worker must also be skilled in the operation of equipment such as mills, extruders and presses.

B. Responsibility: Works under general supervision. Receives assignments in the form of work orders or oral instructions and independently plans work sequence and selects appropriate materials, machines and fabricating processes. Work is checked upon completion for conformance with job specifications and trade practices. The supervisor is available for consultation on unusual problems or untried processes.

C. Physical Effort: Work requires standing, stooping, bending, kneeling, reaching and working in tiring and uncomfortable positions. Carries material and equipment weighing up to 50 pounds.

D. Working Conditions: Usually works in a heated and well lighted shop, however, may have to perform some work in unheated areas of ships. Exposed to noise, dirt, fumes and a variety of chemicals. May be subject to cuts, bruises, burns or falls.

EVALUATION

Appropriate Title, Series and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Rubber Worker, 4360. The Office of Personnel Management Standard for Plastic Fabricator, 4352 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

WG-9 Plastic Workers use standard trade practices, processes, and techniques to repair and fabricate plastic parts and structures that must meet rigid requirements. They must have a knowledge of plastic materials and related compounds and are responsible for independently performing the entire range of common plastic working processes. This level of skill, knowledge and responsibility is comparable to that required of the Rubber Worker. Since both have essentially the same levels of Physical Effort and Working Conditions, the correct grade of this job is WG-9 and it is correctly classified as Rubber Worker, WG-4360-09.

TYPICAL JOB DESCRIPTION

FOR

FOUNDRY MOLDER, WG-4373-10

I. GENERAL

Makes all types and sizes of molds from refectory materials using either hand or automatic processes. Pours molten metal into completed molds to form castings.

II. TYPICAL WORK PERFORMED

Fabricates molds using various sands such as green, natural clay bonded, oiled, dry, C02 and cement. Fashions cores to give internal structure to the castings out of similar or special sands such as black, chromite, zircon, silica or chem-rez. Packs refractory material in a flask around the pattern using hand or pneumatic rammers. Removes pattern from mold and hand finishes to specifications. Coats mold area where metal will contact it with an appropriate sand wash to stop erosion of the sand from the molten metal. Closes mold and prepares for pouring. Pours metal or assists in the pouring operation. Depending on the size and complexity of the job, the mold making may be done on a bench, the floor, a pit or by using different types of molding machines.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Work requires an understanding of the properties of various metals in order to determine the type and grade of sand, the selection and layout of the gating system, pouring temperatures and rates and how to avoid shrinkage and porosity. Must be able to work from sketches and blueprints, use the common tools of the trade and be able to select from and use number of different molding techniques.

B. Responsibility: Works under general supervision. The molder is responsible for independently completing assigned jobs in accordance with specifications and good trade practices.

C. Physical Effort: Work requires moderate lifting, shoveling, walking, bending and stooping.

D. Working Conditions: Works indoors but is subject to heat, smoke and fumes from molten metal. Work is dirty and the worker is exposed to burns from metal splashes and runouts.

EVALUATION

Appropriate Title, Series and Cross Reference Standard

The appropriate title series allocation for jobs whose characteristics match this typical job description is Foundry Molder, 4373. The Office of Personnel Management Standard for Welder, 3703 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

WG-10 Welders use a variety of welding processes to weld all types of commonly used metals and alloys. They control metals and welding techniques to prevent distortion or burning of the metals and to meet weld dimension, tolerance, strength and other requirements. Foundry molders utilize similar skills and knowledge to prepare molds and pour a variety of molten metals to make castings which must meet similar quality specifications. Since both jobs have substantially similar levels of Responsibility, Physical Effort and Working Conditions, the correct grade for this job is WG-10 and it is correctly classified as Foundry Molder, WG-4373-10.

TYPICAL JOB DESCRIPTION

FOR

WOOD AND PLASTICS INSTALLER (SHIPS), WG-4601-09

I. GENERAL

The incumbent is responsible for the layout, fabrication, assembly and installation of wood, plastic and other materials aboard ships, barges, and boats.

II. TYPICAL WORK PERFORMED

Lays out and lifts chipboard templates and then cuts, fabricates and installs vibrant sound dampening constraining plates, accoustical insulation and thermal hull insulation. Installs rubber seals and rubber encased cables on missile mount tubes and fits and installs urethane and teflon compression pads on missile launch tubes using various adhesives. Installs blind nuts in portable steel and plate structures utilizing pneumatic and hydraulic machines.

Lays out, scribes and installs wood cribbing to provide required dimensions, surface and compression to ships battery. Installs wood wedging in conjunction with ships batteries. Installs wood rails to support hard rubber and battery service flats. Templates, fabricates and installs teak bridge decks and constructs wood sheathed shelters to protect equipment and provide environmental sheathed shelters to protect equipment and provide environmental controls. Makes small boat repairs including planking, decking, bulkheads and cabins.

Lays out and lifts chipboard templates and then fabricates and installs linoleum and tile. Installs wet deck systems and smooths, levels, and fills steel decks prior to installation of deck covering systems. Fills voids and insulates refrigerators with urethane and foam in place plastics utilizing plastics proportioning machines. Templates, cuts, installs, and repairs fairings used aboard ship as a substitute for steel. Typical applications are sails, superstructures and sonar arrays.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to read and interpret blueprints, sketches, drawings, process instructions, determine work sequences and set up and operate woodworking machinery. Must have knowledge of wood characteristics, types, strengths, qualities and grain reactions. Must have a knowledge of the working characteristics of various types of plastics. Must be able to determine ratios and set up material proportionary machines used in plastics. Must be able to use hand tools common to the carpenter trade.

B. Responsibility: Works under the general supervision of shop supervisor from whom assignments are received. Required to work to specifications, qualities and dimensions. Must be aware of hazards associated with the woodworking and plastics trades and of the toxic and corrosive nature of materials used.

C. Physical Effort: Work requires climbing ladders, working on staging and scaffolds, working in confined spaces, kneeling, stooping, bending and reaching

overhead in awkward positions. Frequently lifts and carries items weighing up to 50 pounds.

D. Working Conditions: Works in shop and aboard ships under conditions involving dust, noise, fumes, heat, and cold. Exposed to the possibility of receiving cuts and injuries to fingers and hands from accidents while operating woodworking machines and to falls while working on staging and scaffolds.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series for jobs whose characteristics match this typical job description is Wood and Plastics Installer (Ships), 4601; and the Office of Personnel Management Standards for Insulator, 3610, Fabric Worker, 3105, Plastic Fabricator, 4352 and Carpenter, 4607 are applicable to this occupation for job grading purposes.

Analysis and Findings

When comparing the duties and responsibilities of this mixed job to the above-mentioned Office of Personnel Management Standards, we find that: (1) the insulation work is comparable to the work performed by WG-8 insulating workers who install a variety of insulating materials on structures which have predominately straight runs or surfaces and regular curves, (2) the plastics work involving the installation and repair of fairings such as sails, superstructures, and sonar arrays is comparable to the work performed by WG-9 Plastic Fabricators who repair, modify, fabricate, and install plastic parts and structures that have contours which must be reestablished, (3) the wood work involving the fabrication and installation of teak decking and making repairs to small boats is comparable to the work performed by WG-9 Carpenters who construct, alter, repair or modify items and structures such as framework, rough furniture. etc. and (4) the linoleum work is WG-9 (see Floor Coverer, WG-3609-9). Since the highest level of work performed in this job is WG-9 the proper grade level of this job is WG-9. Since the skill and knowledge requirements of the job as a whole are characteristic of the Wood Work Family, 4600, but not of any specific occupation within that family, the 4601 series is appropriate. Accordingly, the proper classification of this job is Wood and Plastics Installer (Ships), WG-4601-09.

TYPICAL JOB DESCRIPTION

FOR

WHARFBUILDER, WG-4639-09

I. GENERAL

Performs general wharf work involved in the repair, maintenance and erection of all dock facilities; drives and secures piling; installs and repairs broken stringers and chocks; repairs damage to pier decks and framing; fits and secures guard rails and bumpers; installs and secures wood and steel cleats and ballards. Drives dolphin piling; cuts and fits the timber separating blocks; installs and makes periodic repairs and changes of camels.

II. TYPICAL WORK PERFORMED

Plans and lays out work from work requests, blueprints, and verbal instructions. Inspects project and determines materials needed, kind of equipment and tools required, and method of performing assigned task.

In new construction, lays out, drives pile, cuts to length or desired height, lays pile cap, places floor joists and lays plank decks--secures bumpers, braces and bridging; secures camel chain and places camels as needed. Constructs new dolphins, locates position, drives piling, cuts and places timber blocks and braces, lashes piling in place with steel cable and assists in planning all operational material and tool needs necessary for completion of the project.

Repair work to broken and rotted piling, stringers, chalk blocks, deck timbers, bumper braces, pile cap bracing, cleats and ballards is initiated by instruction from the supervisor. Wharfbuilder must cut securing bolts, pull broken piling, remove rotted and broken timbers, replace piling and cut to height, cut and replace removed stringers, blocks chocks and timbers. Re-bore and secure with bolts varying in length. This work often calls for temporary bracing and support of sound timber which must be held in position while repairs are being made. Repair to damaged or worn concrete piling, deck and sea walls calls for the building of concrete forms, installing and tying steel reinforcing rods bracing forms to use in pier maintenance.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be capable of reading blueprints or sketches for new construction, repair, or maintenance of piers and wharves. Must have ability to plan procedure; must know where to join or splice timbers; must be capable of handling air drills, chain saws, pneumatic impact wrenches, acetylene cutting torches as well as the hand saws, hammers, wood chisels, squares, levels, measuring tapes, and general tools and power equipment of the wharfbuilder trade.

B. Responsibility: Works under the general supervision of the Wharfbuilder Supervisor. Works from blueprints, sketches, written or verbal instructions. Work is inspected by the supervisor. Defective, rotted and worn unusable timbers and piling are detected by the Wharfbuilder and reported to immediate supervisor who directs work assignment. Wharfbuilder is assisted by a Crane Operator in handling materials and driving piling.

C. Physical Effort: Average weights of timbers used are beyond manpower limits and are handled by use of a crane. Most work is accomplished from a floating barge or from a cradle supported by a crane located on the deck of the barge. Most work is performed in a standing position, however, climbing, crouching, and stooping are often necessary. Some heavy lifting is required. Wharfbuilder must work at steady pace for sustained periods of time.

D. Working Conditions: The Wharfbuilder's work is performed out of doors and in all weather except during heavy wind storms and very rough seas. Must work in wet, foggy, cold or hot weather and during extreme changes of weather. Is exposed to vibrations, noise, unpleasant odors, dirt, creosote, dust and dampness in any weather. Must work as a team with others because of the weight of some of the materials used and to direct the setting and driving of pile by the Crane Operator.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Wharfbuilder, 4639; and the OPM Standards for Carpenter, 4607 and Wood Crafter, 4605 are the most nearly related to this occupation for job grading purposes.

Analysis and Findings

Carpentry work at the WG-9 level involves construction, alteration, repair, or modification of items and structures such as framework, rafters, trusses and beams where accuracy, spacing, and fit are essential and structural soundness is important. Assembly and installation are difficult at this grade because the finished items are usually closely joined to other assemblies to strengthen and support or to provide air and weather-tight assemblies. Repairs and modifications are complicated by the requirement to know the size, shape, and purpose of the complete structure in order to measure, cut, and fit the specific item concerned. Such is the case in the subject position. Also, as described at the WG-9 level, the Wharfbuilder must know how to set up, adjust, and adapt hand and power tools to cut bevels, rabbets, chamfers, dados, grooves, and miter joints. The subject position does not require the skills and knowledges of a Wood Crafter, WG-10, who must have the ability to make a wide variety of wooden items with unique and intricate shapes and designs, and with a number of interlocking parts which must precisely fit and join. In addition to performing carpentry work, Wharfbuilders, in many cases, also do rigging work and operate small boats. Our review of these duties, however, indicate that, in general, they do not serve to enhance the overall worth of the position above the WG-9 level. For example, the rigging work performed generally meets that described at the WG-8 level where the objects to be moved are usually in open areas and are rigged for movement by cranes or other mobile material handling equipment. The small boat operation work also does not exceed the WG-8 level. Accordingly, the proper grade of this job is WG-9, and it is properly classified as Wharfbuilder, WG-4639-09.

TYPICAL JOB DESCRIPTION

FOR

SHIP MAINTENANCE WORKER, WG-4701-08

I. GENERAL

Works independently or as a member of a team in accomplishing a variety of maintenance and repair work on inactivated ships and crafts.

II. TYPICAL WORK PERFORMED

Cuts out rusted and deteriorated portions of decks and bulkheads with a cutting torch and welds new plates over cut out portions. Welds doubler plates over less deteriorated areas. Cuts off and welds on stanchions, padeyes, railings, etc.

Maintains and operates hydro-blasting equipment. Removes rust and scale from topside areas using electrical/pneumatic powered tools hydro-blasting equipment and by hand. Applies preservative paint to decks and bulkheads with brushes, rollers, and spray paint systems.

Manufactures brackets, padeyes framing, and braces with steel plate, round stock, flat bar, angle iron, galvanized pipe and expanded metal. Fabricates and installs safety screens and brackets on ships and craft. Operates portable, semi-portable, and installed equipment and performs routine preventative maintenance on the equipment.

Handles mooring lines operates hoists in moving heavy loads. Detects and removes fire hazards. Installs and inspects portable 15 pound C02 bottles on ships and crafts. Inspects tanks for water and removes water by pumps or other means.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to perform limited welding tasks. Must be able to apply preservative paint by brush, roller, and spray system. Must have a practical knowledge of shipboard equipment.

B. Responsibility: Receives instructions from a supervisor concerning assignments. Independently plans, lays out, and accomplishes the work. Completed work is reviewed for overall results.

C. Physical Effort: Work requires climbing steep, vertical ladders and boarding ships from work boats. Carries items weighting up to 50 pounds. Hoists, chains, and dollies are available for heavier weights.

D. Working Conditions: Works outdoors and in dimly lit ships and crafts, poorly ventilated areas, and in other areas where stale odors, dust, and noise are common.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Ship Maintenance Worker, 4701; and the Office of Personnel Management Standards for Welder, 3703 and Painter, 4102 are the most applicable for job grading purposes.

Analysis and Findings

When comparing the duties and responsibilities of this mixed job to the above-mentioned Office of Personnel Management Standards, we find that: (1) the welding work is comparable to the work performed by WG-8 welders who use a gas torch welding process such as oxyacetylene to join a variety of different kinds of parts or components and (2) the painting work is comparable to the work performed by WG-7 painters who use standard coating methods such as brushing, rolling, and spraying to apply coating materials. Since the highest level of work performed is WG-8 the proper grade level of this job is WG-8. Accordingly, the proper classification of this job is Ship Maintenance Worker, WG-4701-08.

TYPICAL JOB DESCRIPTION

FOR

ANTENNA MECHANIC, WG-4701-10

I. GENERAL

Erects, inspects, maintains and repairs transmitting antennas and ancillary equipment.

II. TYPICAL WORK PERFORMED

Erects, repairs and maintains antennas supported from wooden poles and steel structures. Performs periodic inspections and repairs or replaces faulty hardware including guy wires, strain and support insulators, supporting pennants, shackles, turnbuckles, ground and reflector screen wires, fiberglass guys, boom boards, and load tension springs. Troubleshoots antenna systems and transmission lines to locate and correct problems.

Performs cable splicing on various types of coaxial cable splices hemp and wire rope cables and uses an electrically operated splicing kit for repairing and splicing coaxial cables. Uses machine lathe to fabricate terminal connectors and installs terminal connections on coaxial and other communications cables. Lays or strings various types of transmission lines, coaxial cable or open wire.

Installs and connects baluns that alter the characteristics of open wire transmission lines to coaxial cables to permit the utilization of a greater number of communications channels. Assists in assembly, installation and connection of electronic patch panels that enable the use of several transmitters with a selective choice of antennas. Fabricates and assembles antennas and associated equipment and uses surveying instruments for the placement and erection of the antennas.

Operates equipment such as forklifts, bulldozers, winches, and etc. as necessary to perform rigging work. Operates shop equipment such as drill presses, grinders, band-saws, table saws, lathes, welder and cutting torches.

III. FACTOR STATEMENT

A. Skill and Knowledge: Must know the purpose and use of various types of antennas. Must be familiar with the operation of heavy equipment and winches necessary in rigging work, know the safe working loads of rigging equipment, and have a thorough knowledge of antenna rigging such as cable splicing and the use of block and tackle.

Must be skilled in the use of various electronic test instruments such as AC-DC Voltohmeter, ultrasonic leak detector, tension meter, and others to locate and correct antenna system deficiencies. Must be able to use gas and arc welding equipment and a lathe for fabrication of metal connectors.

Must be able to read and understand blueprints and antenna instruction manuals, make minor mathematical calculations related to the trade, and have a knowledge of the use of surveying instruments.

B. Responsibility: Receives written or oral instructions, blueprints, and sketches from supervisor. Responsible for the safety of equipment and material handled, and for the safety of workers near the rigged object.

C. Physical Effort: Occasionally handles weight in excess of 100 pounds and continually reaches, bends, stoops, pushes, and pulls while attaching rigging to the object to be moved. Stands and walks for prolonged periods of time, and frequently climbs on platforms or other structures.

D. Working Conditions: Works the majority of time outdoors in all types of weather. Subjected to burns and electrical shock when working aloft on towers or with any material capable of conducting electricity. Exposed to injury from swinging loads, breaking slings, and falling objects. Exposed to cuts, bruises, and broken bones from falls while climbing and working from platforms or other structures.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Antenna Mechanic, 4701 and the Office of Personnel Management Standards for Rigger, Electrician, Sheet Metal Mechanic are the most applicable to this occupation for job grading purposes.

Analysis and Findings

The 4701 series is appropriate because the 4700 family covers jobs which require skills in two or more different job families and this job requires substantial skills in the 5200 family (Rigging), the 2800 family (Electrical Work), and the 3400 family (Machine Tool Work). At WG-10, journey level workers typically perform complex work concerned with the assembly, installation, modification, repair and troubleshooting of a wide variety of systems and equipment. They work from plans, blueprints, diagrams, sketches, and manuals to plan and layout the various conditions and sequence of operation. They must have knowledge of the operation of the equipment and systems utilized; of the use of shop mathematics; the ability to interpret and apply plans and blueprints; the ability to use complicated tools and equipment and in general to have skill in any of the accepted methods and techniques of the particular trade.

The WG-11 level Sheet Metal Mechanics fabricate, repair, and overhaul items and equipment that are more complex, unconventional, one-of-a-kind, or experimental in nature. Skill and knowledge are greater than at the WG-10 level because of the higher requirements to exercise imagination and ingenuity.

The Antenna Mechanic job compares favorably to the WG-10 level in terms of scope of duties, skill and knowledge required and does not meet the requirements of typical WG-l1 level work.

The responsibility, physical effort, and working conditions are virtually the same as those for the Rigger at the WG-10 level. Accordingly, the proper grade of the job is WG-10 and it is properly classified as Antenna Mechanic, WG-4701-10.

TYPICAL JOB DESCRIPTION

FOR

RAILROAD CAR REPAIRER, WG-4716-09

I. GENERAL

Performs complete overhaul, repair and maintenance work on railroad freight cars of various types and performs similar work on other kinds of railroad cars.

II. TYPICAL WORK PERFORMED

Inspects and determines nature and extent of repairs required. Performs complete disassembly of the trucks, troubleshoots all components, and makes needed repairs and replacement of parts. Cleans, oils, repairs and stencils all freight car airbrake equipment including the brake cylinder release valve, quick release valve, slack adjuster, etc. Troubleshoots, services, repairs or replaces couplers, coupler yokes, draft gears, etc. Troubleshoots and repairs all safety appliances, performing necessary welding and metal heating. Repairs damaged or worn wooden and metal structures and parts such as decks, walls, door tracks, ladders, etc. performing necessary welding, burning and heating of metal parts as well as fabrication of wooden and metal parts. Removes and replaces decking and reinforces decking support by welding additional steel supports. Inspects and maintains journal boxes and bearings.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to read and interpret blueprints, regulations, manuals, and other technical guides involved in maintenance and repair of railway cars. Must be familiar with the general design and nomenclature of a variety of railway cars, be able to apply procedures and methods for inspection of the various components for serviceability and safety and be able to determine extent of repairs required. Must have knowledge and skill in woodworking methods applicable to railway cars and know the physical characteristics and applications and certain kinds of wood used in their construction. Must be able to inspect, troubleshoot, repair and maintain mechanical components of railway cars such as wheels, couplers, brake equipment, etc. Must know how to cut, shape and work sheetmetal, angle iron and plate steel and be able to use acetelyne torch and electric welder. Must be able to perform some work in other trades and must be able to use equipment such as journal jacks, 50 ton car jacks, and other railway car tools. Must have a good knowledge of AAR and other pertinent regulations.

B. Responsibility: Major repair and overhaul assignments are received from a supervisor in the form of work orders and verbal instructions. Incumbent determines method of repair and sequence and carries out routine work without further supervision. Maintenance and minor repairs may be completed in accordance with incumbent's determinations as to need and extent although incumbent must know when to consult the supervisor. Major repair projects are inspected in progress and all work is subject to spot check or inspection upon completion for workmanship and adherence to safety regulations.

C. Physical Effect: Occasionally lifts weights up to 75 pounds unaided. Works with jacks, hoists, dollies, heavy chains, cables and hydraulic lifts in

handling heavy bulky loads. Considerable physical exertion is required for extended periods. Work is performed in kneeling, crawling, stooping and other awkward positions while using heavy and cumbersome tools. May occasionally climb ladders.

D. Working Conditions: Most work is done indoors on hard surfaces under dirty, dusty, greasy, drafty and noisy conditions. May occasionally work outdoors in bad weather. Is exposed to cuts, bruises, shocks, burns and strains.

EVALUATION

Appropriate Title, Series and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Railroad Car Repairer, 4716 and the Office of Personnel Management Standard for Industrial Equipment Mechanic, 5352 is the most nearly related occupation for job grading purposes.

Analysis and Findings

This job involves a wide variety of work processes related to several occupations, none of which meet the WG-10 level of a particular trade.

WG-8 Equipment Repairers apply specific maintenance and repair procedures to standardize methods and techniques install and repair equipment such as sandblasting machines, hydraulic jacks, firefighting equipment, steamcleaners, etc. They are skilled in use of test and measuring devices and are able to operate various portable and fixed tools in performing routine, repetitive operations. They solve problems in the disassembly, repair and reassembly of simpler components and assemblies. They know the operating characteristics of a variety of equipment and machinery and are familiar with the various metals needed for a given job. Skill and Knowledge and Responsibility exceed WG-8 in that the incumbent uses a wide variety of tools and processes in making complete repairs to major components of railroad cars and must be able to inspect and determine the extent of repairs required as well as plan and carry out repairs with a minimum of supervision. The job does not require the skill and knowledge of a WG-10 Mechanic in independently installing, troubleshooting and repairing a wide variety of more complex equipment. Physical Effort and Working Conditions are essentially the same as both levels of Industrial Equipment Mechanic. Accordingly, the proper grade of this job is WG-9 and it is properly classified as Railroad Car Repairer, WG-4716-09.

TYPICAL JOB DESCRIPTION

FOR

BOATBUILDER, WG-4717-10

I. GENERAL

Builds, repairs, and/or modifies all types of small wooden and plastic boats used aboard ships or in waterfront operations such as life boats, pontoons, and similar equipment. Performs all finish and interior woodwork on small boats and installs flotation materials on them.

II. TYPICAL WORK PERFORMED

From blueprints and tables of off-sets, lays out full-scale plans of a boat. Strikes in various reference lines and makes various full-scale plan views. Builds the basic structures of a boat by any of several methods according to the type of boat and construction. One method is to build a mold or skeleton form of a boat in an inverted position, assemble the various structural parts of the boat around the mold, steam bend the various structural pieces such as rib bands around the mold, secure them to keel blocks and to each other, and remove the basic shell from the mold when the structural shape is formed. Another method is to assemble sawn supports and scaffolds as necessary to position, assemble, hold, and secure the various structural parts, complete the structural parts and close fitting watertight planking, and install the wood foundations for engines, shafting, propeller supports, and other machinery.

Lays decking, builds pilot houses, cockpits and cabins, and installs masts, booms, ladders and similar structures. Makes and installs rudders and rudder controls and installs miscellaneous hardware and fittings.

Repairs boats by removing and replacing damaged or deteriorated parts and caulks seams for water-tightness as necessary. Manufactures, laminates and repairs cabinets and furniture for small boats. Lays linoleum, vinyl tile, and non-skid deck flooring. Makes templates and fabricates and installs flotation materials with dowels and glue.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to read and interpret blueprints, sketches, and tables of off-sets. Must be able to lay out, erect and assemble parts used in building, repairing, and modifying all types of small boats including steaming and bending wood for boat construction. Must be able to: sand boats for finish; caulk seams of boats; make laminates; and repair cabinets and furniture for small boats.

Must be able to use measuring and marking devices such as rules, squares, etc., and to make shop calculations using arithmetic and geometry. Must be able to use boatbuilding tools and machines such as hand tools and woodworking equipment. Must be able to work to close tolerances.

Must have a knowledge of the qualities, appearance characteristics, and uses of boat building materials such as all types of wood, non-corrosive hardware, poly-resin mixtures, laminated plastics. Fiberglass, and styrofoam.

B. Responsibility: Receives assignments through work orders, plans, specifications, sketches, and oral discussions with supervisor. Lays out work by interpreting plans and specifications or sketches and plans the complete sequence of work. Responsible for the proper and safe operation of costly tools and equipment and for minimizing waste when planning the sequence of work. Works under general supervision and completed work is visually checked by supervisor for compliance with plans and specifications.

C. Physical Effort: Work requires frequent standing, bending, stooping, crouching, climbing and working in awkward positions. Frequently lifts and carries items weighing up to 50 pounds. May occasionally lift heavier items with assistance.

D. Working Conditions: Works indoors, outdoors, and aboard ships under conditions involving dust, vibration, loud noise, and unpleasant odors. Exposed to eye, skin, and nose irritations from fiberglass, sawdust, vapors, and bonding chemicals. Exposed to the possibility of receiving cuts and injuries to fingers and hands from accidents while operating woodworking machines.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series for jobs whose characteristics match this typical job description is Boatbuilder, 4717-10; and the Office of Personnel Management Standard for Wood Crafter, 4605 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The characteristics of this typical job correspond with those depicted for a WG-10 Wood Crafter in that both are responsible for making and repairing high grade wood items. Both the Boatbuilder and the WG-10 Wood Crafter must have considerable planning and layout ability. Both must be able to interpret plans, blueprints, and sketches; visualize the item to be made; compute, check, and insure the consistency of the dimensions of a number of interlocking parts; select appropriate machines, tools and techniques; and plan the sequence of work. Both must have knowledge and skill in using a wide range of woodworking machinery techniques to set-up, adapt, and use appropriate machines, tools, and accessories to accomplish the work. Both receive little or no guidance and completed work is only reviewed for compliance with plans and specifications.

Physical effort and working conditions are virtually the same for both. Accordingly, the proper grade of the job is WG-10 and it is properly classified as Boatbuilder, WG-4717-10.

TYPICAL JOB DESCRIPTION

FOR

TOOL AND GAGE CHECKER, WG-4801-09

I. GENERAL

Performs calibration of all linear and angular measuring equipment. Checks for specification and accuracy all precision tools purchased from outside the activity. Checks for accuracy and usability all precision equipment and accessories used by production shops and the nuclear inspection division. Replaces parts and makes minor repairs to precision tools and equipment.

II. TYPICAL WORK PERFORMED

From calibration procedures sets up, calibrates and records all precision measuring equipment that measures linear measurements of + .010, and angular measurement of 1 or less such as: micrometers, dial indicators, gages (plain, plug, ring, thread), vernier protractors, squares, etc.

Uses surface plate and layout technique, and various precision measuring equipment such as: gage blocks, measuring machines, supermicrometers, sine bars and plates, optical, mechanical, and electrical comparators, optical flats, thread wires, vernier gages, autocollimators, toolmaker's microscopes, surface analyzer, lead checker, etc.

Checks for conformance to Federal specifications, quality, completeness and functioning of parts, and calibration tolerances of the following types of new tools purchased for use throughout the activity; measuring equipment and gages that come under the calibration program, and cutting tools, carbide tools, hobs, milling cutters, taps, gear cutters, wrenches, wheel dressing diamonds, levels, various punches, steel tapes, punch and dies, etc.

Checks for accuracy and useability precision shop equipment and accessories that are used in the production shops and the nuclear inspection division such as: master cylindrical squares, "v" blocks, angle plates, drill scopes, rotary tables, parallels, hardness testers, electro-limit gages, jiq borer standards, etc.

Takes surface readings of sonar domes and periscope housings of ships under repair by use of surface analyzer. Replaces parts and makes minor repairs to measuring equipment such as lapping anvils of micrometers, depth micrometer bases, thread gauges, etc., that are necessary to bring it within tolerance.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have ability to use and read various gages, precision measuring equipment and check for conformance to Federal specifications. Must have a knowledge of the trade and the uses of various instruments and measuring devices.

B. Responsibility: Works under the general supervision of a supervisor. Must work with independence and initiative.

C. Physical Effort: The work requires lifting and handling objects weighing up to 50 pounds. Assistance is given for lifting heavier items. Work involves standing, stooping, bending, and reaching.

D. Working Conditions: Incumbent may be exposed to industrial noises, dirt, dust, grease and abrasives while working in or outside the calibration laboratory. Maybe exposed to cuts, burns, falls, bruises, etc. Will be required to use protective devices clothing and equipment when exposed to some working conditions.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Tool and Gage Checker, 4801 and the OPM Standard for Inspector is the most applicable to this occupation for job grading purposes.

Analysis and Findings

This job is comparable to Situation B for Factor I of the Inspector standard because the items being inspected have rigid specifications and close tolerances, and require a variety of difficult techniques to examine. For Factor II the job meets Level II as the incumbent receives little technical assistance during the assignment and instructions and guides are usually available but are complicated and require interpretation. Application of the criteria of Factor III indicates the work falls under Degree A in that the work is performed upon items which are more nearly defined as standardized components with a few interconnecting parts that are manufactured or repaired to specified tolerances and standard specifications. This combination of factor determinations on the Grade Determination Chart is WG-9. Accordingly, the proper grade of this job is WG-9, and it is properly classified as Tool and Gage Checker, WG-4801-09.

TYPICAL JOB DESCRIPTION

FOR

TOOLROOM MECHANIC, WG-4840-08

I. GENERAL

Maintains, adjusts, checks calibration and repairs tools, safety apparel, and mechanical equipment issued from toolrooms to production employees. Issues tools and equipment, receives and examines tools upon return inventories and keeps necessary records, writes reports. May also operate a safety shoe store.

II. TYPICAL WORK PERFORMED

Receives and issues tools in toolrooms and keeps necessary records. Establishes high and low limits of tools. Prepares necessary reports.

Examines tools and portable power equipment such as acetylene cutting torches and tips, pneumatic hammers, portable grinders, pneumatic drills, impact wrenches, portable pumps, rivet guns, rivet squeeze, grinders, cutters to detect damage or excessive wear and insure that they are in suitable issue condition. Determines if tools should be repaired or replaced, and depth of rework.

Disassembles equipment as necessary and cleans parts. Trues holes, valve seats, and other parts, using hand drills, small drill presses, grinding wheels, and small, simple drill press attachments. Replaces worn parts of all tools. Oils and greases tools and equipment, reassembles them, and tries them out before releasing.

Recalibrates precision measuring tools such as torque wrenches, micrometers, cable tensiometers, etc., against standards, making simple adjustments or settings.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Work requires an ability to work from blueprints, sketches, technical data and/or samples; organizes job sequences and determines requirements for repair or replacement of parts or pieces of equipment serviced.

B. Responsibility: Work is typically performed under the technical supervision of a Superviory (Toolroom Mechanic) who makes regular work assignments and periodically changes assignments as needs dictate. Completed work is spot-checked for quantity and quality of workmanship. Keeps working area clean.

C. Physical Effort: Work requires standing for a major portion of time with some lifting up to 35 pounds.

D. Working Conditions: Subjected to those hazards normally associated with the repair of actuating mechanisms and power tools. Work performed indoors in well-ventilated and illuminated shop areas.

EVALUATION

Appropriate Title, Series and Cross Reference Standard

The appropriate title and series determination for jobs whose characteristics match this typical job description is Toolroom Mechanic, 4840. The OPM Job Grading Standards for Small Arms Repairer, 6610, and Tool and Parts Attendant, 6904 are the most nearly related for job grading purposes.

Analysis and Findings

The work of issuing and receiving tools and equipment is classified by reference to the OPM Standard for Tools and Parts Attendant, 6904. As at the WG-6 level in that standard, the incumbents are skilled in determining when tools and equipment should be sent to test, repair, and calibration shops. They make these determinations by performing visual and operating checks, making measurement with such devices as calipers, and receiving reports from users on the nature and extent of damage to tools and equipment.

The repair work performed by incumbents is classified by reference to the OPM Standard for Small Arms Repairer, 6610 as follows: At the WG-8 level in that standard, incumbents perform overhaul, maintenance and repair of a number of complete small arms units. They disassemble guns, examine critical parts for wear or damage using micrometers and precision gages, obtain needed replacement parts, and reassemble the weapon. They modify weapons by replacing old parts with new parts of modified design or make changes such as reaming out a hole or smoothing off rivet heads. They apply skill in the use of precision gages and measuring instruments such as micrometers, etc. They use simple machine tools to alter parts, such as occasionally smoothing off rivet heads, changing the taper or diameter of a pin, reaming out a hole, etc. They make frequent and difficult decisions as to whether parts must be replaced due to slight wear or damage or can be reworked to meet specifications. They receive general instructions and determine work to be done and methods to use on each piece of work.

This is similar to work of the toolroom mechanic who receives tools and equipment, disassembles them; checks for wear or damage to parts; replaces parts as necessary; uses micrometers, calipers, level gages, etc.; and uses simple machine tools to smooth valve seats, sharpen tools, and turn down shanks on drills. Frequent decisions are made regarding whether parts should be replaced or reworked. Work is performed under general supervision.

Work performed in this job does not meet the WG-10 level in the 6610 standard at which incumbents make changes to increase the accuracy and reliability of the items involved or modify other characteristics to fit the weapon to uses for which it was not specifically designed; contributes to the design or redesign of small arms by making or reshaping parts, or experimenting with techniques and materials to arrive at a practical solution of the fabrication objectives; applies a practical knowledge of factors such as the strength and workability of metals, methods of hardening, tempering and machining metals, ballistics, and other factors affecting the accuracy and durability of weapons in order to develop or reform components; develops templates and patterns used to lay out work, devises jigs, tools, and fixtures, and uses drill presses, milling machines, lathes, grinders and buffers in work. This is not typical of the work performed by the incumbents. Accordingly, the proper grade of the job is WG-8 and it is properly classified as Toolroom Mechanic, WG-4840-08.

ADDENDUM - EVALUATION BY OFFICE OF PERSONNEL MANAGEMENT.

The following is a synopsis of an OPM evaluation of a job similar to the one described in the typical job description:

The first group of duties compares favorably with the WG-6 level of the Job Grading Standard for Tools and Parts Attendant, WG-6904. This standard covers nonsupervisory work involved in receiving, storing, issuing, signing out, and checking in various tools, equipment, shop supplies, and repair parts to and from such using maintenance, construction, and shop personnel as machinists, carpenters, and automotive and aircraft mechanics. Work at the WG-6 level involves selecting for issue items that are requested by trade and shop nomenclature or described by users in terms of their intended usage. The WG-6 attendant has sufficient knowledge of the range of items in stock, in the absence of requested items, to recommend other items that might fit the users' requirements.

The second group of duties also compares favorably with the WG-6 level of the WG-6904 Job Grading Standard. The WG-6 attendant determines when damaged or inoperative items are beyond or too costly to repair. The attendant is skilled in making minor repairs and in determining when tools and equipment should be sent for test, calibration, or repair.

The third and fourth category of duties compare favorably with the WG-8 level of the Job Grading Standard for Small Arms Repairer, WG-6610. The work of the WG-8 repairer is of similar difficulty in that it involves ability to read specifications and blue prints, use of simple machine tools to alter parts, such as smoothing off rivet heads, changing the taper or diameter of a pin, reaming out holes, disassembly and reassembly, shimming and aligning parts to synchronize the performance of simultaneous or consecutive functions.

We concur in your determination that the duties described for the position evaluate at the WG-8 grade level.

TYPICAL JOB DESCRIPTION

FOR

TOOLROOM MECHANIC, WG-4840-09

I. GENERAL

Troubleshoots a wide variety of hand and power tools and equipment of electrical, pneumatic, hydraulic, or mechanical nature to determine their condition. Disassembles, repairs, reassembles, and tests tools and equipment. Manufactures parts and/or replaces parts as required. Operates precision machine tools such as milling machines, lathes, boring mills, and radial drill presses to manufacture or repair parts. May perform the work of a Tools and Parts Attendant as required.

II. TYPICAL WORK PERFORMED

Operates a variety of tools and equipment ranging from simple mechanical hand tools (e.g., adjustable end wrenches, pipe wrenches, etc.) to highly complex tools having pneumatic, hydraulic, or electrical characteristics (e.g., high pressure hydraulic rivet guns with multiple valves and operating assemblies, high pressure airless spray guns, etc.) to determine their operating condition. Determines their need for repair and/or adjustment and the extent of the required repair or adjustment.

Completely disassembles tools and equipment to whatever extent has been determined necessary to gain access to parts and assemblies requiring repair or replacement of parts. Examines disassembled parts and assemblies to verify original determination of need for repairs or nonrepairability of the item. Recommends such items for disposal if found to be beyond economical repair.

Replaces defective, broken, or worn parts as required using replacement parts stocked in the toolroom or the supply system when such parts are available. When parts are not available, use machine and/or hand tools to repair or manufacture required parts in order to restore tools and equipment to operable condition. when feasible to do so.

Reassembles parts and assemblies of tools and equipment, establishing close tolerances and fine adjustments as specified in guiding documentation or on the basis of experience as to the requirements of the specified items being assembled.

Operates and tests reworked tools and equipment to assure their proper performance. Makes adjustments as required to achieve desired operating parameters in accordance with specifications and the requirements of users.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Basic skills and knowledges required include extensive knowledge of the broad range of tools and equipment issued from toolrooms of the activity for use by activity employees. This knowledge includes a good knowledge of the principles of mechanics, hydraulics, and pneumatics and a basic knowledge of the principles of electric motivation and switching normally utilized in hand held electric power tools and other tools and equipment of similar complexity.

Also required is the skill to read and properly interpret blueprints and illustrated parts breakdowns of tools and equipment stored and issued by the activity. Incumbents are skilled in the operation of basic machine tools such as lathe, milling machine, boring machine, and radial drill press, as well as hand and power tools in order to make and/or repair parts for the equipment such as micrometers, dial indicators, vernier calipers, and various testing blocks and standards in order to insure accuracy of parts dimensions and various gauging tools such as torque wrenches, etc., maintained in the toolroom.

B. Responsibility: Receives general supervision from a trades supervisor or other immediate supervisor. May receive direction from a Leader during work operations. Supervision is usually limited to assignment of tasks with broad general guidance which outlines the basic objectives of the assigned work. Incumbent works independently with no specific guidance from the supervisor except in cases which require deviation from equipment specifications or in which complex repairs are required to be made to equipment for which no specifications, schematics, or other guidelines exist. Incumbents must know and observe all safety regulations relating to the toolroom environment and the equipment serviced.

C. Physical Effort and Working Conditions: The work normally requires lifting and handling of equipment weighing up to 50 pounds. Occasionally, items of greater weight are encountered for which assistance in handling is normally provided. Work is normally performed in the toolroom where there is adequate lighting, heating, and ventilation. Occasional exposure to unpleasant odors and fumes may be expected. Incumbents normally work in a standing, or sitting position but may be required to kneel, crouch, or assume other uncomfortable positions to perform the work of the job. Hazards normally encountered consist of the possibility of minor cuts, gouges, or bruises from tools used or equipment serviced.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Toolroom Mechanic, 4840; and the OPM Standards for Machinist, 3414, Artillery Repairer, 6605, and Small Arms Repairer, 6610, are the most applicable to this occupation for job grading purposes.

Analysis and Findings

The WG-9 Artillery Repairer performs a wide variety of rebuilding and repairing tasks using well-proven parts, equipment, and work processes. The weapons and components are composed of a number of subassemblies which are comparable to the tools and equipment repaired in this job. The weapons and components are composed of a number of subassemblies with mechanical, hydraulic, pneumatic, and electrical systems. This job requires comparable skill and knowledge to repair, rebuild, and test tools and equipment of electrical, pneumatic, hydraulic or mechanical nature. The operation of precision machine tools in this job compares to the machine tools operated by WG-9 Machine Tool Operators. This job exceeds the criteria in the WG-8 level of the Small Arms Repairer Standard because the arms repaired at the WG-8 level do not contain the electrical, pneumatic, hydraulic or mechanical features of the tools repaired in this job. Responsibility, Physical Effort, and Working Conditions required in this job are essentially the same as those in the WG-9 criteria for Machine Tool Operator and

Artillery Repairer. Accordingly, the proper grade of this job is WG-9, and it is properly classified as Toolroom Mechanic, WG-4840-09.

TYPICAL JOB DESCRIPTION

FOR

BICYCLE REPAIRER, WG-4844-06

I. GENERAL

Repairs and reconditions bicycles.

II. TYPICAL WORK PERFORMED

Disassembles bicycles, and inspects, cleans and adjusts brakes, wheels, sprockets, and other parts and assemblies. Replaces worn or broken parts. Repairs and adjusts coaster brakes. Straightens and aligns wheel spokes and rims. Replaces ball bearings and races; straightens and aligns crank hangers; and replaces worn crank cones. Straightens damaged frames and fork assemblies. Repairs saddles by replacing broken springs and worn covers. Replaces worn links in drive chains.

As an incidental duty, patches tires and tubes. May perform simple welding or brazing to repair broken frames. May paint bicycles. Stencils appropriate identification information on identification plates and installs plates on bicycles.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a good knowledge of various types of bicycles and how they are repaired. Must possess the ability to use a variety of hand and electrical tools.

B. Responsibility: Incumbent receives oral instructions and shop repairs orders. Supervisor follows up for accomplishment of assignments.

C. Physical Effort: Work requires standing, stooping, bending, and reaching. May be required to lift objects weighing up to 50 pounds.

D. Working Conditions: Work is performed inside where there is some grease, oil, and dirt.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Bicycle Repairer, 4844 and the Office of Personnel Management Standard for Small Arms Repairer, 6610, is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The Small Arms Repairer, WG-6, like the Bicycle Repairer, disassembles, inspects, adjusts, repairs, and replaces worn or damaged parts. Both apply a general understanding of mechanical systems in order to disassemble components

and set aside damaged ones, such as bent parts, loose rivets, broken teeth, etc. Both use hand tools including files, hones, drills, etc. Responsibility, Physical Effort, and Working Conditions required in this job are essentially the same as those in the WG-6 criteria for Small Arms Repairer. Accordingly, the proper grade of this job is WG-6, and it is properly classified as Bicycle Repairer, WG-4844-06.

TYPICAL JOB DESCRIPTION

FOR

GREENSKEEPER, WG-5001-06

I. GENERAL

Duties include planning, scheduling, directing, and performing work required to properly maintain a golf course.

II. TYPICAL WORK PERFORMED

The Greenskeeper is responsible for the general care and upkeep of golf tees, fairways, bunkers, hazards, putting greens, golf flags, sand boxes, and other facilities on golf courses, lawn bowling greens, and other special lawn areas. Recommends alterations to improve playing conditions; and directs lower level assisting employees in the installation of authorized alterations.

Determines and recommends the type of bent grasses and other types of turf to be used. Diagnoses lawn and grass diseases, and applies proper curative treatments.

Determines when grounds are in suitable playing condition, when use should be prohibited, and when regular greens should be withdrawn from play and temporary greens substituted.

Takes care of tools, sand boxes, golf flags, and other equipment.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a working knowledge of ground maintenance and of accepted methods used in seeding, mowing and replacing grasses used on golf courses and bowling greens. Must have knowledge of soils, chemicals, and equipment used for the maintenance and upkeep of golf courses and bowling greens. Must have knowledge of common grass diseases and pests and the methods used for their control and eradication

B. Responsibility: Incumbent plans and carries out his work according to growth seasons and maintenance requirements. Follows instructions on product labels using procedures which are peculiar to the geographic area in which the facilities are located giving proper consideration to weather conditions such as temperature, winds and precipitation. Supervisor determines overall requirements and is available to give advice on new or unfamiliar methods or problems that arise and checks to see that the completed work meets acceptable standards.

C. Physical Effort: Work requires frequent walking, standing, pushing of carts and wheelbarrows, bending and stooping. Frequently lifts heavy objects such as bags of fertilizer, grass, seed, etc.

D. Working Conditions: Work is done outside. In working outside, incumbent is subject to discomfort from long periods in the hot sun, and sometimes chilly or rainy weather. Being exposed to dirt, dust, mud and sometimes to chemical sprays and dusts, may wear protective clothing such as gloves, safety shoes, and boots. There is some chance of minor injuries such as bruises, cuts, and scrapes.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Greenskeeper, 5001; and the Office of Personnel Management Job Grading Standard for Gardener, 5003, is appropriate for job grading purposes.

Analysis and Findings

The duties of the job compare with the WG-6 Gardener. The WG-4 Gardener is told which plants to tend and the nature of the work to be done. The WG-8 Gardener must perform a wide range of gardening work, requiring an in-depth knowledge of plants, landscaping, etc. This job does not meet the complexity of the WG-8 level, but does exceed the complexity of operations envisioned at the WG-4 level. The WG-6 Gardener plans and carries out work according to a schedule or project assignment, keeping within the framework of established gardening practices. Based on a knowledge of standard gardening procedures, decides when and how to do the work, which compares with this job.

The responsibility, physical effort and working conditions of this job are virtually the same as the Gardener, WG-6. Accordingly, the proper grade of this job is WG-6, and it is properly classified as Greenskeeper, WG-5001-06.

WG-5205-08

TYPICAL JOB DESCRIPTION

FOR

GAS DETECTION MONITOR, WG-5205-08

I. GENERAL

Makes standard tests of tanks, compartments, and other enclosures or areas for oxygen deficiencies and the presence of toxic or explosive gases.

II. TYPICAL WORK PERFORMED

Tests the air in spaces such as closed compartments or poorly ventilated space aboard vessels to ensure it is safe for other personnel to enter and work. Tests for the presence of combustible gases, carbon monoxide, carbon dioxide, chlorine, and similar gases. Tests for oxygen deficiencies

Uses MSA Explosimeters, MSA Universal Hand Pump for the testing of hydrogen sulphide detector tubes, carbon monoxide and carbon dioxide detector tubes, bacharach carbon dioxide and oxygen analyzers, as appropriate, for the tests being conducted. Measures gas concentrations by reading meters, float levels, and color comparison codes.

Documents all findings. In areas where concentrations of toxic or explosive gases or oxygen deficiencies are found to be above/below acceptable limits, suspends all work operations until deficiencies are corrected. Tags/posts area and notifies all concerned about condition.

Recommends methods to alleviate the unsafe condition. Methods consist of such things as providing additional positive or negative ventilation, additional cleaning, or inerting tanks, piping systems, etc.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a thorough understanding of and have demonstrated ability in the techniques listed in the following items:

1. Detection methods for hazardous atmospheres residues, and materials.

2. Removal of hazardous materials, substances, and liquids.

3. Inerting and pressing-up techniques

4. Personal protective equipment and clothing.

5. Ventilation techniques

6. Sampling procedures

7. Characteristics of various gases, vapors, fumes, mists and dusts in enclosed, confined, restricted access, and other spaces.

8. Meaning of threshold limit (TLV), ceiling levels, flash points, fire points, auto-ignition temperatures, and the ability to effectively utilize them.

9. Test for flammable, explosive, specific toxic, and asphyxiation hazards with regard to: (1) entry (2) hot and cold work operations and (3) instrumentation and equipment (determine needs, procure, maintain, and calibrate).

Must know how to use and maintain equipment such as explosive alarm meters, oxygen and carbon dioxide analyzers, carbon monoxide detector tubes, freon detectors, etc.

B. Responsibility: Receives general instructions from supervisor concerning the objectives, expected results, requirements and deadlines. Independently performs assignments with a minimum of supervision.

C. Physical Effort: Occasionally lifts and carries weights up to 50 pounds. Work requires frequent climbing, sitting, kneeling, stooping, cramped or awkward work positions. Requires close attention of eyes to gauges and color codes.

D. Working Conditions: Works indoors, outdoors, aboard ships under conditions involving unpleasant odors, poor ventilation, fumes, poor illumination, dust, dirt and loud noise.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Gas Detection Monitor, WG-5205. The Office of Personnel Management Standard for Inspector is the most nearly applicable to this occupation for job grading purposes.

Analysis and Findings

In applying the Inspector standard, the job best matches Situation A of Factor I. At this level, the inspection pertains to less complex inspection work using a limited variety of inspection methods and techniques. The job best matches Level II of Factor II - Responsibility. At this level, the supervisor prescribes general instructions concerning the broad objectives and expected results and the work is completed with little technical assistance such as is the case with this job. Further application of the standard results in the job being credited with degree C for Factor III - Skill and Knowledge. At this level, standardized inspection tasks are performed requiring some analysis and judgment, and selection of methods and procedures to be used. In summary, the job has been credited with Situation A, Responsibility - Level II, and Skill and Knowledge - Degree C. The Grade Determination Chart of the standard provides for a grade of WG-08 with this factor analysis. Accordingly, the job is properly classified as Gas Detection Monitor, WG-5205-08.

WG-5221-14

TYPICAL JOB DESCRTPTION

FOR

LOFTER, WG-5221-14

I. GENERAL

On the mold loft floor, lays out the lines of a ship to full size in various plan views, and develops and constructs templates and molds to be used as patterns and guides for the layout and fabrication of various structural parts of ships and related structures.

II. TYPICAL WORK PERFORMED

Working from blueprints and tables of offsets, lays out full sized ship plan. Measures and marks the intersections and curvature of lines and the various determination points for the half-breadth plan, profile plan, body plan, and various auxiliary views. Fairs lines and makes adjustments and corrections until corresponding points in all views agree. Transmits any measurement errors discovered by plan disagreements to design department. Spaces in frame lines and other reference lines and points, fairs in various connecting lines, details views by incorporating dimensions of various machinery installations and other equipment from various blueprints, and compiles or checks various tables and dimensions by actual measurement.

Makes templates for all metal structural parts of ship, working from blueprints, tables, and mold loft floor plan. Develops shapes as required by geometric methods. Cuts wood pieces for templates on band saw, does hand shaping as necessary, and nails parts together. Puts in various lines and reference points on template, and marks template with various identifying data and other data such as number of pieces to be made, type and weight of stock to be used, location for installation aboard ship, and nature of shaping required. Makes wood mock-ups of ship parts and sections to guide or check upon shaping or positioning of parts.

Takes ship measurements and prepares templates from actual ship layout under circumstances, as on repair and alteration, when ship plans are incomplete or of doubtful accuracy because of damage or changes subsequent to plans. Prepares corrected mold loft layouts as necessary and reports changes to design department.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to read and interpret complex plans and use algebra, geometry and trigonometry to perform layouts. Must possess a general knowledge of ships, structural materials, and manufacturing and assembly processes in order to produce accurate templates. Must be able to use wood and metal cutting machines and a variety of measuring devices such as scales, protractors, squares and construction transits.

B. Responsibility: Generally works alone with a minimum of supervision. Plans work procedures, selects materials, and finishes work to very close tolerances.

C. Physical Effort: Work is performed in kneeling, crouching and stooping positions. Climbs ship structures and staging. May have to work in cramped spaces.

D. Working Conditions: Exposed to injury from cutting or sanding machinery. Normally works inside, but is exposed to weather conditions when performing outside work on ship structures. Inside working conditions are good except for noise and dust.

EVALUATION

Appropriate Title, Series and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Lofter, 5221. The Office of Personnel Management Standard for Patternmaker, 4616, is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The WG-14 Patternmaker independently plans, lays out, and performs machine operations and bench work to initially construct, alter or repair three dimensional patterns and core boxes with unusual contours and a variety of irregular shapes and interrelated dimensions. The WG-14 Patternmaker has complete responsibility for each assigned project and exercises considerable independent judgment and ingenuity. A supervisor checks the final pattern only to see that required specifications and trade standards are met. The WG-14 Patternmaker must apply a knowledge of plane and solid geometry, foundry practices, properties of various kinds of wood and plastic, and skill in the use of hand and power tools in order to complete patternmaking assignments. This level of skill matches that required to perform the duties of a Lofter who is responsible for independently planning, laying out and constructing templates and molds of ship structures that involve interrelated unusual or irregular shapes and contours. Accordingly since the physical effort and working conditions of the occupations are comparable, this job is correctly classified as Lofter, WG-5221-14

TYPICAL JOB DESCRIPTION

FOR

TEST RANGE TRACKER, WG-5235-05

I. GENERAL

Operates and maintains aerial and mobile land targets from various control towers. Assists Electronics Mechanics in the maintenance of targets, range and respective towers.

II. TYPICAL WORK PERFORMED

Working from various control towers, serves as a safety ground observer, spotter, voice communicator and equipment operator for the pilots using the target facility. Clears pilots to use appropriate targets. Visually tracks pilot through the actual bomb drop. When the bomb hits, the operator feeds the hit information back to the pilot via radio, enabling the pilot to make whatever corrective action is needed to make a more accurate drop.

Operates any or all of the following targets:

1. Weapons Impact Scoring System (WISS) - Closed Circuit Television complex which visually scores the hit information of the barge target. This information is then electronically transmitted to a printed readout and passed to the pilot via radio.

2. Acoustiscore Strafing Target (3H18C) - This equipment electronically scores the hit information on the strafing target range. Operator reads the hit information from an electronic counter and relays it to the pilot via radio.

3. Mobile Land Targets - Operates the steering mechanism on specially constructed VW Vehicles which are radio controlled from the tower. Steering mechanism produces signals which make the vehicle respond to turning, stopping, starting, shifting (total maneuvering) so as to take evasive action. These vehicles simulate traffic running down a highway, with the aircraft attempting to bomb it. The hit information is relayed to the pilot via radio.

4. Moving Boat Targets - The same equipment is used as for the mobile land targets, driving boats in lieu of vehicles. The hit information is relayed to the pilot via radio.

5. 500' and 800' Land-Filled Bullseye Targets - Normally score hit information and relay clock position hits to the pilot via radio.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to write legible reports. Must be able to talk clearly for communication over the radio.

B. Responsibility: Receives assignments from supervisor or higher grade worker. Performs routine tasks without much supervision. Receives instructions on new assignments. Work is reviewed while in progress.

C. Physical Effort: Work requires standing, sitting and working in awkward positions. Occasionally lifts 50 pounds or more. Close attention to work is a necessity. Color vision must be good. Must be able to climb a 35 foot tower.

D. Working Conditions: Work is performed outdoors in all kinds of weather or in towers which are normally air conditioned/heated.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Test Range Tracker, WG-5235-05. The Office of Personnel Management Standards for Motor Vehicle Operator, 5703 and Trades Helper are the most nearly applicable to this occupation for job grading purposes.

Analysis and Finding

WG-5 Motor Vehicle Operators operate pickup trucks and cars equipped with a gear shift lever and brake, accelerator and clutch pedals. The skills and knowledges required to operate the mobile land targets which are specially constructed VW vehicles closely parallel those required to operate pickup trucks and cars. For example, incumbent must be skilled in handling the controls for starting, driving, turning, stopping, and shifting so as to take evasive action. Other duties such as assisting electronic mechanics in the maintenance of range towers, etc., wouldn't exceed that normally expected of a WG-5 helper. Accordingly, the proper grade of this job is WG-05 and it is properly classified as Test Range Tracker, WG-5235-05.

TYPICAL JOB DESCRIPTION

FOR

AIRCRAFT LAUNCHING AND ARRESTING DEVICES MECHANIC, WG-5301-10

I. GENERAL

Inspects, repairs, installs, and tests aircraft and airborne missile launching and arresting devices and visual landing aids.

II. TYPICAL WORK PERFORMED

Performs inspections and maintenance of the airfield arresting gear and visual landing aids as prescribed. Lays out, aligns, and secures equipment on foundations. Uses portable milling, grinding, and boring machines to machine parts to fit; and assembles machined parts. Lays out holes for shafting, cables, high pressure piping, and electrical conduit. Installs and hooks up gages and recording equipment for test instrumentation. Operates and tests all installations by subjecting them to prescribed pressures, speeds, and other conditions. Inspects for leakages, vibration, and other defects and makes necessary repairs. Overhauls and repairs equipment by disassembly, replacing defective parts, adjusting, reassembling and testing.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have the ability to read and interpret blueprints and technical documents and a basic knowledge of gasoline engines and electricity. Must have a knowledge of the machinist trade to fabricate, modify and assemble various component parts. Must have a knowledge of the pipefitter trade to cope with high pressure steam and hydraulic systems. Must be proficient in the use of hand tools and power tools and calibrating measuring equipment such as micrometers and calipers, etc.

B. Responsibility: Receives verbal instructions with necessary blueprints and sketches from the supervisor and frequently works without supervision on remote projects. Incumbent has the responsibility for independently diagnosing, planning, and completing projects on work orders for major projects or new equipment.

C. Physical Effort: Must be able to stand, stoop, crouch, and kneel to push, pull, lift, and manipulate tools, equipment, and parts. Frequently lifts objects in excess of 45 pounds.

D. Working Conditions: Work is performed outside exposing the mechanic to the prevailing weather conditions, excessive noise, and intermittent slippery or uneven surfaces. There is a possibility of cuts and bruises while working in the vicinity of operating aircraft.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Aircraft Launching and Arresting Devices Mechanic, 5301 and the Office of Personnel Management Standard for Marine Machinery Mechanic, 5334 is the most related to this occupation for job grading purposes.

Analysis and Findings

This job meets the WG-10 level criteria of the Marine Machinery Mechanic Standard. At this level, mechanics independently apply a variety of methods, procedures, and techniques to lay out, install, align, repair and maintain numerous types of systems, equipment, and machinery that utilize mechanical, hydraulic, and pneumatic principles of operation. Examples of the complexity of this equipment and machinery serviced include speed reduction and acceleration mechanisms, power transmissions, propelling machinery, and rudder and steering assemblies.

This job involves the independent inspection, repair, installation, and testing of aircraft and airborne missile launching and arresting devices and visual landing aids which are of the complexity described at the WG-10 level. The responsibility, physical effort, and working conditions are virtually the same as those for the Marine Machinery Mechanic at the WG-10 level. Accordingly, the proper grade of the job is WG-10 and it is properly classified as Aircraft Launching and Arresting Devices Mechanic, WG-5301-10.

TYPICAL JOB DESCRIPTION

FOR

TEST MECHANIC (AIRCRAFT LAUNCHING AND ARRESTING DEVICES), WG-5301-11

I. GENERAL

Performs duties related to the set-up and operation of static and functional tests and experimental, prototype and production models of launching and arresting devices and components. Alters, modifies, repairs, and tests equipment and prototype components under test.

II. TYPICAL WORK PERFORMED

Works in the testing and modification of experimental and prototype launching and arresting components and assemblies. Operates various test rigs, takes readings, alters equipment to meet test requirements. Conducts static, integrity and functional checks to insure proper operation of experimental test rigs utilizing various power sources, electrical, high pressure air, and hydraulic. Modifies existing test apparatus as required. Performs hydrostatic and operation cycling tests of experimental, new or modified products of the activity. Must overcome deficiencies in design, material and test devices to obtain specified results. Prepares sketches for manufacture of new or replacement parts. Recommends solutions to testing problems. May be assigned to teams for certification of catapult and arresting gear devices or to correct discrepancies aboard ship.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a practical knowledge of strength of materials, manufacturing processes, and welding processes. Must have a basic knowledge of hydraulics and sufficient knowledge of electricity to properly perform necessary checks and repairs. Must have the ability to recognize overall effects of design changes during processing and the ability to anticipate flaws in theoretical design. Must have a thorough knowledge of installation practices for all types of piping that is threaded, flanged, flared, and welded. Must possess the ability to disassemble, repair, modify and reassemble precision and/or complex assemblies without drawings. Must be completely familiar with theoretical and practical knowledge of launching and arresting devices. Must be able to set up and operate various stationary and portable power tools such as shears, shaper, and saw drill press. Must also be able to set up and operate high pressure air and hydraulic pumps for functional and hydrostatic test purposes. Must be able to use tools and instruments such as micrometers, vernier calipers, height gages, dial indicators, recording instruments such as recording watt hour meters, flow meters, pressure controllers, and automatic timing and control devices such as micro switches, solenoid valves, etc. Must be able to read and interpret incomplete blueprints, schematic drawings, and detailed government and commercial engineering codes and specifications.

B. Responsibility: Assignments are received in the form of work orders or oral instructions and are of the type which normally require independent review, interpretation, translation, and often corrections or adjustments. Sometimes must prepare new sketches. Often suggests and uses alternate methods and

procedures to obtain specified results. Work is completed under general supervision, and work is checked for conformance to accepted trade practices and specifications.

C. Physical Effort: Work requires standing, stooping, bending, and reaching, and handling of objects weighing up to 50 pounds. Hoists, hand trucks, lifts and other workers assist with heavier items.

D. Working Conditions: Works indoors and outdoors. Work is performed in underground pits and elevated surfaces. There is exposure to loud noises, vibrations, dust, oily and slippery surfaces. Indoor work areas are well lighted and comfortable. Outdoor work is performed in all weather conditions.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Test Mechanic (Aircraft Launching and Arresting Devices), 5301. Although launching and arresting devices are maintained by Marine Machinery Mechanics, 5334 along with a variety of other equipment and machinery, the work of this job is specialized and otherwise warrants treatment as a separate occupation. The Office of Personnel Management Standard for Marine Machinery Mechanic is appropriate for job grading purposes, and the Standard for Air Conditioning Equipment Mechanic, 5306 is used for cross reference purposes at the WG-11 level.

Analysis and Findings

WG-10 Marine Machinery Mechanics lay out, install, align, overhaul, repair, and maintain equipment and machinery such as main propulsion machinery, steering systems, aircraft launching systems, bridle arresting system, etc., using and applying standard formulas, trade theories, and industry practices. The requirement in this job that the incumbent work on unconventional equipment, make design changes, modify test apparatus, and prepare sketches surpasses the WG-10 level. Modification work and work on unconventional equipment are of a higher level than that expected of a WG-10 journey level worker. Such work equates to the Skill, Knowledge and Responsibility of WG-11 level work in the 5306 Air Conditioning Equipment Mechanic Standard. Accordingly, the proper grade of this job is WG-11, and it is properly classified as Test Mechanic (Aircraft Launching and Arresting Devices), WG-5301-11.

TYPICAL JOB DESCRIPTION

FOR

KITCHEN/BAKERY EQUIPMENT REPAIRER, WG-5310-09

I. GENERAL

Installs, overhauls, repairs, and maintains kitchen equipment such as vegetable choppers, meat saws, slicers, meat grinders, coffee urns, potato peelers, steam kettles, dishwashers, ovens and dough mixers.

II. TYPICAL WORK PERFORMED

Inspects equipment to locate defects. Disassembles equipment to gain access to defective parts. Replaces or repairs such parts as saw blades, motors, bearings, fans, chains, belts, couplings, gears, pumps, valves, and similar components. May fabricate gaskets, belts, shims, etc. Cleans and lubricates all kitchen equipment. Installs, assembles, disassembles equipment for relocating and repairing. May be required to maintain a supply of parts for equipment serviced.

Work is performed on heavy commercial kitchen equipment such as conveyor and dishwashing machines capable of cleaning thousands of dishes per hour; large rotating ovens that are gear driven with chain drive and reduction gears; heavy duty mixing machines containing worm drive gears, belt driven reduction gears, and chain driven tilting mechanisms; automatic cookie, doughnut, pie, and slicing machines containing cams, level timing devices, chain and belt drives, and reduction units; deep fat fryers utilizing hydraulic pumps; large pressure cookers; and other equipment used in preparing food for large numbers of people.

III. FACTOR STATEMENT

A. Skill and Knowledge: Must have a broad knowledge of a wide variety of complex kitchen machinery. Must be able to read and interpret blueprints, sketches, and specifications. Must be able to perform some welding, plumbing, and electrical work when disconnecting, connecting, and repairing equipment. Must be capable of using testing and measuring equipment like leak detectors, voltmeters, depth and feeler gauges, calipers, micrometers, and surface precision blocks. Must be able to operate a variety of hand and power tools such as drill presses, lathes, threading and grinding machines, and other tools needed in fabricating parts. Must possess a knowledge of shop mathematics and have a practical knowledge of mechanical, hydraulic, and electrical principles.

B. Responsibility: The supervisor assigns work orally or through work orders. Using blueprints, sketches, and other technical guidance, the incumbent independently assembles, disassembles, troubleshoots, repairs, and maintains equipment.

C. Physical Effort: Frequently handles items weighing up to 50 pounds and occasionally may move items weighing more. Work regularly requires effort to push, pull, reach, stand, crawl, and kneel for sustained periods.

D. Working Conditions: Works primarily indoors, but some outdoor work may be required. Exposed to high temperatures, humidity, dust, dirt, noise, and other uncomfortable conditions. Subject to cuts, burns, bruises, and electrical shock.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

Jobs whose characteristics match this typical job description are titled Kitchen/Bakery Equipment Repairer, WG-5310. The most closely related Office of Personnel Management Standards are Marine Machinery Mechanic, 5334; Industrial Equipment Mechanic, 5352; Artillery Repairer, 6605; and Pneudraulic Systems Mechanic, 8255.

Analysis and Findings

The WG-08 Marine Machinery Mechanic installs, repairs, and maintains equipment such as cargo handling equipment, forced draft blowers, and galley equipment. Similarly, the WG-08 Industrial Equipment Mechanic installs, repairs, and maintains equipment like sandblasting machines, degreasers, chain hoists, and steam cleaners. In both cases, the mechanics are provided simple plans and specifications indicating specific repair procedures, and they do not independently troubleshoot, diagnose, and repair major equipment or systems. Skill, knowledge and responsibility employed in the repair and maintenance of heavy commercial kitchen equipment exceed the WG-08 level because the equipment is more complex and the job requires the mechanic to troubleshoot and repair systems with a minimum of supervision. The job does not require the level of skill and knowledge used by WG-10 Marine Machinery Mechanics or Industrial Equipment Mechanics who independently troubleshoot and repair a wide variety of highly complex equipment such as main propulsion machinery, aircraft test blocks and bridge cranes. The skills and knowledges do match those employed by the WG-09 Artillery Repairer and the WG-09 Pneudraulic Mechanic who are responsible for diagnosing and repairing, under general supervision, a variety of complete weapon systems and major components such as artillery pieces, transfer pumps, transmission pumps, motors, hydropneumatic cylinders, and pressure regulating valves. Like the kitchen equipment, these systems and components consist of interrelated hydraulic, mechanical, pneumatic, and electrical subcomponents. Accordingly, the proper classification for this job is Kitchen/Bakery Equipment Repairer, WG-5310-09.

TYPICAL JOB DESCRIPTION

FOR

OILER, WG-5323-05

I. GENERAL

Lubricates and checks moving parts, wearing surfaces and bearings of machinery, operates simple utility pumps, and cleans mechanical equipment.

II. TYPICAL WORK PERFORMED

Lubricates, according to schedule and need, the moving parts of a variety of mechanical equipment, such as grinders, lathes, milling machines, drill presses, pumps, shafting, motor bearings, gears, engines, sprockets, drive chains, compressors, vacuum pumps, testing equipment, mixers, and heating and ventilating equipment. Maintains oil and grease levels by adjusting feed on oil cups, packing grease and screwing down grease cups, and by adding oil manually or by filling force feed lubricators. Greases moving parts and friction surfaces. Selects the proper amount and kind of lubricants. Lubricates moving parts on all types of power and hand operated machine tools used at the activity.

Operates electric or pneumatic powered small utility pumps to fill oil reservoirs and transfer waste oil, thinners and solvents from drums to bowsers and tank trucks.

Assists Equipment Mechanics or Maintenance Machinists in performing routine maintenance operations, such as cleaning and flushing bearings and gear boxes; replacing defective oil lines, cups, grease retainers and fittings tightening pump glands; repacking pumps; aligning couplings; connecting shafts and motors; replacing belts and changing filters. Also assists in operating valves or in starting or stopping motors, pumps or compressors. Keeps equipment, pipe lines, gauges and valves clean by wiping off excess oil and grease. May sweep and scrub floors.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Employee must have ability to read and interpret lubrication charts and specifications as furnished by the equipment manufacturer. Must be knowledgeable of the various types of oils and lubricants, their manufacturers and trade names, how and under what conditions they are to be used. Must have a good general knowledge of the operation of production equipment to more fully appreciate and understand the need for using the correct hydraulic fluids, and for maintaining them in good condition through proper maintenance of filters, strainers, and reservoirs.

Must have sufficient mechanical ability to detect discrepancies or erratic functioning in operation of equipment and report such conditions to the supervisor. Must be able to work from oral and written instructions. Must use oil cans, grease guns and other similar lubricating devices, screw driver, gas pliers, and end wrenches.

B. Responsibility: Responsible to supervisor for prompt and efficient action on jobs assigned, and must be willing to accept the responsibility of being an oiler with normal supervision as machinery breakdown is directly related to quality of lubrication. The manner and degree that this work is accomplished has a direct bearing on the operating condition and downtime of the stations' equipment. This is of utmost importance with reference to N.C. machines, some of which are scheduled for use 24 hours per day. Responsible for keeping preventive maintenance lubrication record cards up to date and returned to supervisor.

C. Physical Effort: Must be able to work, stoop, bend, crawl, stretch and climb. Climbing includes the use of ladders, scaffolds, towers, etc. Handles 350 lb. oil drums with use of drum cart. Carries 35 lbs. for distances of up to 20 feet.

D. Working Conditions: Is required to work inside and outside, subject to extreme heat and cold: to come in contact with oily, greasy and dirty surfaces; to travel from building in inclement weather; is exposed to varying degrees of noise; is required to work in eye hazardous areas.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Oiler, 5323; and the most closely related Office of Personnel Management Standards are Trades Helper and Mobile Equipment Servicer, 5806.

Analysis and Findings

The WG-5 Trades Helper performs the common and most typical tasks of a trade. Detailed instructions are provided on new assignments. Simple routine tasks are performed without much supervision after they are learned. The Pipefitter Helper assists in the assembly, laying, or hanging of pipes by lifting, carrying, and handing tools, fittings, and equipment to the journeyman pipefitter; holding pipe during assembly; and screwing or bolting pipe hangers to walls, ceilings, etc. He cuts and threads pipe using hacksaw, pipecutter, and threading machine, the dies of which have been set by a higher grade Pipefitter; bends or shapes pipe by applying pressure after placing pipe in bending block; tightens pipe connections and valves; and cuts or drills previously marked holes in walls. The Pipefitter Helper receives detailed instructions when performing the above operations for the first time. Afterwards, normal supervision is all that is required. Likewise, the Oiler is given detailed instructions for the first time on the machines to be lubricated, the types of lubricants to use and the various areas on the machines to lubricate. Afterwards using the lubrication charts which prescribe the proper lubricants to use, is expected to work under normal supervision. Although the Oiler is not a true Trades Helper as defined in the standard (not working with and assisting a journey level worker), we consider the lubrication of mechanical equipment to be on par with the type of work which would be assigned, for example, to an Industrial Equipment Mechanic Helper. As a further comparison, the WG-5 Mobile Equipment Servicer performs such work as draining and changing lubricants in crank cases, differentials, and transmissions; lubricating vehicles and replacing oil and air filters; checking fluid levels in braking systems and power steering reservoirs; replacing accessories such as rearview mirrors; and rotating, replacing, and repairing tires. Work is seldom checked during progress at this level. The skills, knowledges, and responsibility of the Oiler do not exceed those of the WG-5

Mobile Equipment Servicer. Accordingly, the proper grade of the job is WG-5, and it is properly classified as Oiler, WG-5323-05.

ADDENDUM - OILER, WG-5323-05

EVALUATION BY OFFICE OF PERSONNEL MANAGEMENT

The following is a synopsis of an OPM evaluation of on a job similar to the one described in the typical job description:

This position lubricates and checks moving parts, wearing surfaces and bearings of machinery; operates simple utility pumps; and cleans mechanical equipment. The oiler must be able to read and interpret lubrication charts and specifications and must be knowledgeable of the various types of oil and lubricants and how and under what conditions they are to be used. Must have a good general knowledge of the operation of production equipment to understand the need for using correct fluids and for proper maintenance of filters, strainers, and reservoirs. Uses oil cans, grease guns and other similar lubricating devices, screw drivers, gas pliers and end wrenches. Work is assigned either orally or in writing. After receiving detailed instructions for the first time on machines to be lubricated, the oiler is expected to work under normal supervision.

This work compares favorably with the WG-5 level of the Job Grading Standards for Mobile Equipment Servicer, WG-5806 and Preservation Servicer, WG-7006. At the WG-5 level, Mobile Equipment Servicers must be able to drain and change lubricants in crank cases, differentials, and transmissions to lubricate vehicles and replace oil and air filters; to check fluid levels in braking systems and power steering reservoirs; and to check components such as spark plugs, fan belts and similar items and to make replacements and adjustments. Work is assigned by the supervisor either orally or in writing. Work is seldom checked while in progress but rather on the basis of customer satisfaction. Grade 5 Preservation Servicers use a limited variety of basic equipment and preservation techniques to preserve parts, surfaces, and equipment from corrosion and deterioration by wiping, dipping, spraying, brushing, pumping and similarly applying oils, powders, and similar agents. They typically perform limited assembly and disassembly of items to remove external parts for shipment and storage purposes, to gain entry to easily accessible parts to apply or insert preservations, or to facilitate the processing of disassembled parts. Grade 5 servicers follow oral and written instructions on routine, recurring practices in determining the techniques, equipment and preservatives to use and the general procedure, method, or submethod to follow. They receive specific complete instructions on new or changed processes.

TYPICAL JOB DESCRIPTION

FOR

DOOR CLOSER REPAIRER, WG-5364-08

I. GENERAL

Maintains, repairs and replaces all types of door closers, checks and panic hardware on personnel doors and also repairs and maintains the mechanisms in manual and automatic roll-up overhead doors.

II. TYPICAL WORK PERFORMED

Inspects, installs, adjusts, repairs, lubricates and cleans all types of door closers and door checks. Installs replacement parts where necessary and fabricates parts when factory parts are unavailable using lathes, milling machines and grinders. Installs, repairs and replaces panic hardware and associated locking mechanisms. Determines proper correction methods and effects repairs on malfunctioning equipment.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to interpret blueprints and technical manuals and instructions from manufacturers in making new parts, assembling, modifying and installing equipment. Must be skilled in the use of lathes, grinders, milling machines and bearing presses. Must be able to use a variety of hand tools and precision measuring devices such as micrometers, vernier calipers, levels, protractors, etc. Must have a thorough knowledge of grease and lubricants and must be familiar with all brands of closers and checks.

B. Responsibility: Works under general supervision with very little technical assistance. Receives assignments from the supervisor either orally or through general work orders indicating location, person to contact for further information, and priorities. Uses sound judgment in independently selecting work processes, techniques, and tools and equipment; determining work sequence and type; and extent of necessary repairs.

C. Physical Effort: Work involves frequent standing, stooping, bending, kneeling and working in awkward positions; and occasional lifting of over 50 pounds.

D. Working Conditions: Subject to a wide range of temperatures from below freezing to 130ØF. Work areas are frequently smoky, noisy, confined, poorly ventilated, poorly illuminated, oily, and greasy. Is exposed to the possibility of cuts, scrapes and bruises.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Door Closer Repairer, 5364 and the Office of Personnel Management Standard for Locksmith, 4804 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The WG-8 Locksmith Workers have similar duties and responsibilities to the Door Closer Repairers in that they adjust, troubleshoot, repair, and install a wide variety of commercially manufactured locking devices. They perform the full repair cycle of locating trouble, disassembly, repair, replacement or fabrication of parts, cleaning, reassembly, and reinstallation of a wide variety of makes and models of locking devices as well as locking bolts. They may also machine parts when they are not available in stock using bench lathes and drill presses.

The responsibility, physical effort and working conditions of this job are virtually the same as those in the WG-8 criteria for the Locksmith Standard. Accordingly, the proper grade of the job is WG-8 and it is properly classified as Door Closer Repairer, WG-5364-08.

TYPICAL JOB DESCRIPTION

FOR

ICE CREAM MAKER, WG-5401-05

I. GENERAL

Makes ice cream and maintains cleanliness and sanitation of equipment in the areas to which assigned. The principal methods used are those employed in a commercial ice cream plant.

II. TYPICAL WORK PERFORMED

Assembles materials for making ice cream, sherbet and custards such as heavy dairy cream, butter, milk, powdered milks, flavorings, stabilizers, sugar, syrups, etc., in accordance with recipes or instructions from the supervisor. Weighs and measures ingredients and mixes with steam and electric mixers. Insures that mixtures are properly cooked, cooled, flavored, frozen and portioned. Weighs samples of ice cream mixture periodically to ascertain that proper "overrun consistency" is reached. May add crushed fruits, nuts and ether ingredients in the amounts required by special recipe at proper time during the processing of ice cream. Assembles and disassembles piping and complicated machines used to process ice cream. These machines include steam cooking vats, homogenizers, cooling presses, holding tanks, blending tanks, fruit feeder and ice cream freezer. Cooks sauces, syrups, toppings, etc., used for ice cream sundaes.

III. FACTOR STATEMENTS

A. Skill and Knowledge: The incumbent must be capable of interpreting and explaining written instructions, directives, records, recipes, charts and other printed matter and be capable of solving simple arithmetic problems. Must possess a knowledge of commercial production of ice cream, maintenance of equipment, and the sanitation requirements for the operation of an ice cream plant. Must be capable of assembling and disassembling complicated piping used to pump mixes and other liquids and be capable of assembling and disassembling ice cream plant machinery for cleaning and maintenance. These machines include steam cooking vats, homogenizers, cooling presses, holding tanks, blending tanks, fruit feeder, and the ice cream freezer. Must have a knowledge of the qualities of dairy products and the sanitation precautions that are required to produce products that are free from contaminating agents and bacteria.

B. Responsibility: Receives assignments from worksheets, schedules or general oral instructions. Supervisor is available to answer questions and to see that the work is being done properly. Incumbent may work in an area removed from direct supervision for short periods.

C. Physical Effort: Work involves frequent lifting or moving of objects weighing up to 30 pounds (containers of ice cream); constant standing and walking; and occasional lifting of over 50 pounds.

D. Working Conditions: Kitchens may be uncomfortably warm and noisy. May be exposed to extremes in temperatures when entering walk-in refrigerators from

warm kitchens. There is danger of falling on floors that have been freshly mopped or where food has been spilled.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Ice Cream Maker, WG-5401-05; and the Office of Personnel Management Standard for Cook, 7404, is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

WG-5 Cooks regularly perform a wide variety of simple cooking tasks without being told how to do the work and without close review. The ice cream, sherbet and custard recipes require skills comparable to those of the WG-5 level Cook. The job does not involve the variety of food items and recipes depicted at the WG-8 level. The Responsibility, Physical Effort and Working Conditions required in the job are almost identical to those in the WG-5 level criteria for Cook, WG-7404. Accordingly, the proper grade of this job is WG-5, and it is properly classified as Ice Cream Maker, WG-5401-05.

TYPICAL JOB DESCRIPTION

FOR

PUMPING EQUIPMENT OPERATOR, WG-5401-06

I. GENERAL

Operates sewage lift stations to pump sewage to municipal sewage treatment plant.

II. TYPICAL WORK PERFORMED

Operates 10 pneumatic lift stations. Opens and closes valves and operates automatic and manually controlled pumps and other equipment. Checks stations for proper operation according to a prescribed schedule, reads meters, and makes operating adjustments to control flow and level of fluid. Occasionally collects samples for analysis by others.

Removes pumps of up to 50 HP for overhaul and replaces same. Performs such maintenance as cleaning and replacing check valves, adjusting valve packing glands, and packing and lubricating valves.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must know the purpose, location and operating characteristics of lift stations and equipment such as various pumps, valves, and compressors. Must have the ability to perform minor maintenance on pumps, valves, and related equipment. Must be able to use various common hand tools.

B. Responsibility: Incumbent performs work according to prescribed schedules for checking equipment operations and performing preventive maintenance. Judgment is exercised within a framework of established practices, processes and procedures. Stoppages and breakdowns are reported to the supervisor. Work is spot checked on a daily basis to assure adherence to prescribed policies, practices and procedures.

C. Physical Effort: Must be able to lift weights of 50 pounds and may occasionally lift heavier weights. Must be able to open and close heavy valves, work in strained and awkward positions, climb ladders and stairways, and perform other strenuous tasks throughout a typical work day.

D. Working Conditions: Works outdoors under all weather conditions. Is exposed to odors from sewage. Is also exposed to falls from ladders, or into open tanks or manholes. May receive cuts and bruises from working with pumps and other equipment.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Pumping Equipment Operator, 5401 and the Office

of Personnel Management Standard for Fuel Distribution System Operator, 5413 is the most nearly applicable to this occupation for job grading purposes.

Analysis and Findings

Skill and Knowledge requirements of the job are comparable to those of the WG-6 Fuel Distribution System Worker. They both operate pumps, read meters, and open and close valves. They both must know the operation of relatively routine work stations and exercise skill in manipulating a few controls to regulate the flow of liquids in a safe and efficient manner. Although the job requires performance of minor maintenance work, the Skill and Knowledge requirements of such duties do not exceed the WG-5 level of standards for such occupations as Mobile Equipment Servicer, 5806. Responsibility, Physical Effort and Working Conditions required in this job are essentially the same as those in the WG-6 level criteria of the Fuel Distribution System Operator Standard. Accordingly, the proper grade of this job is WG-6 and it is properly classified as Pumping Equipment Operator, WG-5401-06

Note: Jobs which combine the work described above with duties involving the operation of sewage pump trucks should be graded by application of the Motor Vehicle Operator Standard and allocated to the occupational series which is grade controlling since the rules for grading mixed jobs are applicable.

WG-5419-09

TYPICAL JOB DESCRIPTION

FOR

ENGINE AND PUMP OPERATOR, WG-5419-09

I. GENERAL

Operates and performs operational maintenance and repair of various types of steam, electric, gasoline, and diesel engines and associated equipment, such as pumps, generators, and compressors. Equipment operated is located dockside or afloat, such as on sludge removal barges, railroad sludge removal units, oil barges, and floating cranes.

II. TYPICAL WORK PERFORMED

Starts, stops, regulates, and adjusts diesel engines used as a power source for compressors, pumps, blowers and generators, and various types of marine diesel engines. Assures that engines and associated peripheral equipment are properly serviced and are functioning correctly. During equipment operation observes gauges and is alert for any indication of potential failure or improper operation. Makes necessary adjustments to correct malfunctioning equipment.

Starts, stops, regulates, and adjusts steam boilers and auxiliary equipment used as an electric power or steam generating source. Observes meters and gauges to determine operating conditions of equipment. Identifies faulty operation and takes appropriate corrective action by adjusting fuel, air intake and water level valves. Fires-up boilers using manual feed oil controls.

Controls and operates electrically powered equipment observing and analyzing various meters and gauges. Makes appropriate adjustments according to standard operating procedures and reports any unusual or abnormal condition.

Performs minor maintenance, adjustments, and repair of equipment. Reports the need for any major overhaul or repair. Maintains a log noting fuel consumption, hours of equipment operation, amount of liquids handled, and similar information.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must understand the operation, maintenance and repair of various types of mechanical and electrical equipment such as steam boilers, generators, compressors, pumping equipment and related equipment. Must know how to operate diesel engines and be able to identify reasons for malfunctions and corrective measures which must be taken.

Must be able to use all hand tools required for making minor adjustments to the equipment. Must be able to read working drawings and work from manufacturers' manuals and similar technical instructions. Must be able to use drill presses, bench grinders, small miller, bench lathe, bench saw, and a brazing outfit to make minor repairs. Also, must be able to use a volt/ohmmeter to determine from installed gauge and meter readings whether or not the equipment is operating properly.

B. Responsibility: Assignments are usually made orally or through written work orders. Incumbent independently maintains continuous observation of all equipment in operation and is alert for safety hazards and for safeguarding tools, materials, equipment, and avoiding personal injuries. Utilizes drawings, manufacturers' manuals and similar technical instructions to locate defects in equipment. Unusual problems are referred to supervisor for technical advice and assistance.

C. Physical Effort: Must be able to lift and carry weights, normally not exceeding 50 pounds, when setting up pumping operations. Required to sit, kneel, crouch, stoop, climb ladders, and work in strained or awkward work positions.

D. Working Conditions: Work is generally performed indoors but may be required to work outdoors in adverse weather conditions. Exposed to prolonged noise, heat, and fumes and the possibility of burns when working on steam and hot water lines. Incumbent is also subjected to noxious gases, cuts, bruises, and scrapes.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Engine and Pump Operator, 5419 and the Office of Personnel Management standard for Air Conditioning Equipment Operator, 5415 is the most nearly applicable to this occupation for job grading purposes.

Analysis and Findings

The operation and maintenance and repair of various types of steam, electric, gasoline, and diesel engines and associated equipment, such as pumps, generators, and compressors is considered comparable in complexity to the operation of a centralized, multiple zone air conditioning plant that serves a single building as described for a WG-9 Air Conditioning Equipment Operator.

Also, both the Engine and Pump Operator and the Air Conditioning Equipment Operator, WG-9 must have (1) a working knowledge of the functions, purpose, and location of all equipment in the system operated (2) the ability to detect malfunctions in the equipment and locate and diagnose the trouble, to determine its probable cause and to make necessary adjustments or minor repairs and (3) the ability to read, interpret, and use schematics and specifications regarding servicing and operation of equipment.

The responsibility, physical effort and working conditions of this job are virtually the same as those depicted at the WG-9 level in the Air Conditioning Equipment Operator standard. Accordingly, the proper grade of the job is WG-9 and it is properly classified as Engine and Pump Operator, WG-5419-09.

TYPICAL JOB DESCRIPTION

FOR

CHEMICAL PLANT OPERATOR (SILVER RECOVERY),
WG-5427-07

I. GENERAL

This job involves the operation and minor maintenance of a Silver Recovery Plant and its integral equipment. Such equipment includes film grinders, caustic solution reactions columns, centrifuges, rinsing tanks, conveyors, scales, blowers, cyclone separators, chill rings, steam jackets, slurry pumps, acid rinse facilities, chip dryer, steam coils, and other associated processing equipment.

II. TYPICAL WORK PERFORMED

Receives, weighs, and logs film to be processed in the Silver Recovery Plant. Introduces film to the grinder to reduce it to flakes, moves flakes to the reaction column to permit caustic solution to break up film emulsion, operates centrifuges to separate solution from chips, rinses chips with acid solution to neutralize caustic, rinses chips to remove chemical residue, and operates drying equipment to prepare chips for marketing. Processes chemical solutions through centrifuges to recover silver bearing sludge. Collects and processes sludge for shipment to refineries. Performs minor maintenance to plant equipment. Operates a fork lift.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to operate all equipment involved in the chemical recovery of silver from photographic film. Must understand the dangers involved in handling the chemicals used in recovery processes. Must be able to read and understand written instructions and perform simple arithmetic computations. Must be able to read and properly interpret the indications of recorder/controllers, pressure and vacuum gages, and other such instruments utilized in the plant.

B. Responsibility: Work is performed under the supervision of a higher graded employee. Prescribed schedules are provided for the work, but the incumbent is responsible for performing the functions necessary without specific supervisory advice and assistance except in unusual circumstances. Relative value of plant product requires a high degree of integrity and honesty.

C. Physical Effort: Items normally handled range from 5 to 100 pounds in weight. Handling devices such as fork lifts, palletizers, and conveyors are provided for lifting and handling of heavy items. Required to reach, lift items overhead, carry, push, and pull. Must climb ladders.

D. Working Conditions: Work is performed on concrete floors which are sometimes wet. Employee is subject to falls from ladders or on wet floors, chemical burns, unpleasant fumes, dust,

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series for jobs whose characteristics match, this typical job description is Chemical Plant Operator (Silver Recovery), 5427; and the OPM Standard for Water Treatment Operator, 5409 is appropriate for job grading purposes.

The 5409 Standard describes three grade levels at which work may be performed, WG-7, WG-8, and WG-9. At the WG-7 level, as in this job, the operator must be able to follow standard procedures and instructions for the operation of plant equipment. Also at this level, tests and measurements are done in accordance with specific and easily understood instructions, and the operator performs minor maintenance to the plant equipment. This job does not require the type of skills depicted at the WG-8 level of the standard which involves treatment of water for human consumption to change taste, odor, physical content, chemical content, or bacteriological content of the water. Accordingly, the proper grade of this job is WG-7, and it is properly classified as Chemical Plant Operator (Silver Recovery), WG-5427-07.

WG-5439-09

TYPICAL JOB DESCRIPTION

FOR

ENVIRONMENTAL TEST EQUIPMENT OPERATOR, WG-5439-09

I. GENERAL

Performs set up and operation of a wide variety of environmental testing equipment to obtain data for the technical evaluation of ordnance and related components by other personnel. Equipment operated includes a variety of different types of shock, vibration, temperature, humidity, and altitude testing equipment.

II. TYPICAL WORK PERFORMED

Performs set up and operation of all types of environmental test equipment to be utilized. Such equipment includes: shock testers, electronic vibration equipment, radiant heat equipment, temperature chambers, temperature-humidity chambers, mechanical vibration machines, altitude chambers, drop testers, sand and dust chambers, vacuum-steam-pressure equipment, jolt machines, explosion chambers, jumble machines, rain and sunshine chambers, and other test equipment for the simulation of climatic and dynamic environments.

Receives requests for tests which indicate the test specifications to be followed. Sets up and performs the test in accordance with OS, OD, MILStd or other written test procedures provided. This involves: mounting the specimen in or on the proper machine or test chamber; making instrumentation connections for monitoring if required; conducting the test, recording data (much of the data is recorded automatically); and returning test specimen with all test data to the cognizant engineer or technician.

Performs routine operational adjustment and disassembly of equipment as required in setting up tests. Major maintenance and repair of equipment is performed by Public Works or contractor personnel.

Proof tests jigs and fixtures to insure absence of resonance and other undesirable characteristics. Works closely with supervisor in improving existing test procedures, developing new procedures and design and application of fixtures and proof testing of same. Also assists in conducting special tests such as tests to determine the threshold of failure of a component under high speed vibration.

Examples of major tests performed:

(1) Temperature and Humidity Testing of Guided Missile Components. Places specimen in the test chamber which is equipped with automatic programming controls. If the program is new, cuts a cam for the control instrument that will cause it to follow the proper test schedule. Cam is usually of plastic and is cut by use of band saw. Specific configuration is determined by the supervisor. Incumbent installs the cam and makes a visual check of accuracy. Also, sets and checks for proper operation, the safety limit switches which protect the test specimen.

(2) Shock Tests on Hyge Shock Equipment. Drains all water from the machine, disconnects all water and high pressure air hoses, and disassembles the piston housing portion of the machine using a jib boom crane to handle the heavy parts. Installs proper metering pin and reassembles equipment. Fills machine with proper amount of water to limit power stroke and adjusts pressure accordingly by test firing the equipment. Checks during test firing to see that recording equipment is working properly. Installs specimen and performs test.

(3) Acceleration Tests on Centrifuge. Mounts specimen on rotating arm and adjusts counter balance to obtain proper static and dynamic balance (rotating arm is equipped with a balance indicator). Sets machine for proper rate of revolutions, checks to see that recording equipment is working properly and runs test. On certain types of acceleration test machines the time of acceleration, length of sustained acceleration and decay time of acceleration must be pre-set on pre-set counters, and the rate of increase of acceleration or deceleration controlled by adjusting the oil pressure of volumes of flow of the hydraulic drive system. This equipment is designed for high impulse acceleration testing and data is recorded automatically.

(4) Vibration Testing. This includes use of both mechanical and electro-dynamic vibration equipment. On mechanical equipment, after specimen is mounted, the amplitude of vibration is controlled by mechanically adjusting counter balanced weights on a rotating shaft. Frequency of vibration is controlled through a variable-speed drive. The electrodynamic vibration machine is automatically controlled and data recorded through an electronic console which requires adjustments of controls by the operator during test. Test requirements must be set into the control console prior to the beginning of each test, the variables include frequency, amplitude, acceleration, and scanning rate. Mounting procedures must be carefully followed in mounting items for vibration testing, e.g., proper torque must be applied to the mounting bolts and accelerometers must have proper tension in order to obtain valid data.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have basic knowledge of functions of mechanical, electro-mechanical, and electronic test equipment used in environmental testing and be able to understand and apply testing procedures contained in OS's, MilStds or other documents. In this respect, due to rapid advances in many areas of environmental testing, much of the equipment is of new design thus there is a continual requirement for learning of new test methods and procedures and familiarization with new principles of operations. Must be capable of properly using band saws, power sanders, hand files, torque wrenches, various hand tools, polaroid cameras, voltmeters, and electric timers. Background must also show general knowledge and ability to work with explosives.

Requires initiative and judgment in recognizing equipment malfunction, misoperation or specimen failure in order to take appropriate action while the test is in progress.

B. Responsibility: General supervision is provided by an Engineer or a Technician. Supervisor inspects work for accuracy and correctness. Accuracy and reliability in the exercise of judgment regarding acceptability of tested items is essential. Judgments are made on the basis of established specifications and requirements.

C. Physical Effort: Must be capable of operation of hoists, dollies, hand trucks, and other handling equipment in test set up and moving large test

specimens or operating equipment. Average weight of test components and equipment handled manually is 30 pounds although weights handled mechanically may amount to as much as 4,000 pounds.

D. Working Conditions: Approximately 60 percent of the time there is exposure to dangers from moving objects, high voltage electrical conductors, high or low temperatures, and high hydrostatic and air pressures. Resulting injuries could be cuts, burns, shocks and bruises, or other similar injuries. Also intermittently handles and tests explosive loaded components. Work is performed indoors in a properly heated and illuminated room.

EVALUATION

Appropriate Title, Series and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Environmental Test Equipment Operator, 5439 (Where the purpose of the job is to determine whether the ordnance material inspected complies with standards, specifications or contractual requirements, rather than to operate the test equipment without making such determinations, the appropriate classification is Ordnance Equipment Inspector, WG-6641-09). The OPM Standard for Machinist, 3414 is the most nearly related for job grading purposes.

Analysis and Findings

The variety of equipment operations performed and the complexity of set-ups and operating procedures in the typical job description are comparable to those described at the WG-9 level of the Machinist Standard where the operator independently makes set-ups to one or more types of machine tools requiring various machine tool attachments. The job is also comparable with the Responsibility, Physical Effort, and Working Conditions factors as described at the WG-9 level of the standard. Accordingly, the proper grade level of the job is WG-9, and it is properly classified as Environmental Test Equipment Operator, WG-5439-09.

TYPICAL JOB DESCRIPTION

FOR

PORTABLE EQUIPMENT OPERATOR, WG-5478-06

I. GENERAL

Operates various pneumatic tools to break up or drill hard surfaces such as concrete, asphalt, and masonry.

II. TYPICAL WORK PERFORMED

Operates jack hammer equipped with various tool attachments to break up concrete, masonry and asphalt surfaces and to trim rough edges of excavations in such surfaces. Uses various hand tools to trim rough edges. Operates rotary drill to drill holes in masonry walls, ceilings, floors and pavements. Operates jack hammer with tamping attachment to compact earth or concrete, and uses vibrator attachment to remove air pockets from freshly poured concrete.

Starts, adjusts and stops air compressor. Attaches hoses and jack hammer to air outlets. Selects and attaches various tools. Maintains equipment by greasing, oiling and adjusting; makes minor repairs; and maintains air compressor and tools in operating condition.

Performs other work such as assisting other workers in shoveling digging, and unloading supplies and equipment.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Knowledge is required of the operation, adjustment and preventive and minor corrective maintenance of air compressors, pneumatic drills, jack hammers, and related pneumatic tools and accessories. Must have skill in drilling holes in concrete and masonry to proper size and depth and be able to break, cut or trim concrete, masonry and asphalt surfaces to required specifications.

B. Responsibility: Receives assignments from a supervisor or higher level employee. Routine assignments are given with general directions as to the location and nature of work to be done. Non-recurring assignments are given with more specific instructions such as the location, size and depth of holes to be drilled. Incumbent may perform individual assignments with or without direct supervision. Directions received usually have to do with what is to be accomplished rather than how the equipment is to be operated. Work may be spot checked frequently. Incumbent must use judgment in notifying the supervisor or higher level employee when equipment malfunctions require more than minor corrective maintenance.

C. Physical Effort: Lifts and continually positions jack hammers and other equipment weighing up to 100 pounds. Works standing for long periods of time in stooped or other awkward stances.

D. Working Conditions: Works outside in all kinds of weather, or indoors in damp, or other adverse conditions. Continually exposed to high concentrations of dust when breaking up or drilling masonry and other materials. Is subject to

cuts, bruises and abrasions from falling or flying particles of concrete and other objects. Is subject to continuous jarring of body from operation of pneumatic tools.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Portable Equipment Operator, 5748: and the Office of Personnel Management Standard for Cement Finisher, 3602 is the most nearly applicable to this occupation for job grading purposes.

Analysis and Findings

The skill and knowledges required of this job are comparable to those required of WG-6 Cement Finishers who use a variety of power tools common to their trade such as paving breakers, pneumatic hammers and concrete saws to remove broken concrete. The Responsibility, Physical Effort and Working Conditions are also comparable to the WG-6 criteria of the Cement Finisher Standard. Accordingly, the proper grade for this job is WG-6 and the proper classification is Portable Equipment Operator, WG-5478-06.

WG-5485-10

TYPICAL JOB DESCRIPTION

FOR

AIRCRAFT WEIGHT AND BALANCE SPECIALIST, WG-5485-10

I. GENERAL

Reviews aircraft documentation on what equipment should be added or removed which would affect the weight and balance of the aircraft; physically inventories aircraft when weighing; performs weighing operation; and computes basic weight and moment and center of gravity.

II. TYPICAL WORK PERFORMED

Ensures weighing scales are properly zeroed and assures currency of calibration dates and adequacy of all equipment used for weight range of aircraft being weighed. Follows proper methods and procedures in jacking and leveling. Determines valid hydrometer readings of fuel weighed and temperature if aboard aircraft. Weight considerations for the hydraulic fluid, deicer, liquid oxygen, etc. are computed to achieve true basic weight and moment of aircraft.

Reviews work orders, changes, bulletins, and special work requests for modifications, structural changes and determines the addition or deletion of fixed equipment affecting weight and balance of aircraft. Physically inventories aircraft contents when weighed. Distinguishes, determines and computes their relative effect on obtaining basic weight data. Determines reaction points for weighing aircraft and levels; and measures distance of applicable reaction points to reference datum line for values used in computing basic weight. Applies applicable formulas to determine the center of gravity, percent of Mean Aerodynamic Chord and/or Index for each aircraft classification and Chart "C" entry.

Prepares Airplane Weighing Record (DD-365B) of the Weight and Balance Data Handbook. Enters prescribed reaction point values and computes the total moment effect of aircraft as weighed. Deletes or makes additions as reflected by the inventory to obtain basic weight and moment for entry on the Basic Weight and Balance Record (DD-365C). Determines the amount and station locations of ballast necessary or ballast to be removed to maintain the center of gravity within the Chart "E" tables of limitations, range or envelope. Observes maximum gross weight limitations for take off as well as landing conditions under all loading conditions established in applicable Chart "E" for a particular aircraft type. Advises Weapons Engineer when maximum gross weight exceeds limitations and works in close conjunction with the Project Engineering to alleviate this unsatisfactory condition and sees that this discrepancy is corrected prior to releasing aircraft.

Corrects Basic Weight Check List (DD-365A) to reflect added or removed items accordingly. Makes a similar entry on Basic Weight

and Balance Record (DD-365C) and updates the running total basic weight and basic moment of aircraft and currency of date for pilots utilization in loading of aircraft.

Makes proper entries on the Basic Weight and Balance Record (DD-365C) to reflect the history of changes in structure or equipment affecting the center of gravity of aircraft. Constructs and updates the Basic Weight Check List (DD-365A) as required by major modifications, changes in operating equipment, or changes in configuration of the aircraft. As reflected by the Basic Weight Check List (DD-365A) determines equipment or items to be removed or added to the basic weight record on the Basic Weight and Balance Record Form (DD-365C).

Coordinates with Weapons Engineering Department concerning new equipment and projects to be installed or removed which would affect basic weight and balance on all aircraft processed. Determines whether aircraft is properly loaded and balanced for safety of flight by utilizing the information in the Chart "E" and whether take off conditions are within weight and balance limitations.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must possess and understand the practical aspects of the mechanical, electrical and electronic trades in both fixed wing and rotary wing aircraft. Must be thoroughly knowledgeable in aerodynamics of fixed and rotary wing aircraft and be capable of instructing others in the critical aspects of center of gravity locations. Must be knowledgeable in aircraft handling and jacking techniques, and be thoroughly proficient in mathematical computations and weight and balance techniques. Must be able to determine location and amount of ballast.

B. Responsibility: Receives work assignments from a supervisor who also provides technical assistance as required. Performs all assigned tasks with minimum supervision. Ensures all documented work is accomplished, certified, and verified in accordance with the production certification program of the facility. Ensures defects/discrepancies discovered during routine processing, which have not been previously documented, are brought to the attention of personnel authorized to annotate official records. Is responsible for work progression and coordination with the associated trades to complete all documented work on schedule. Is responsible for good housekeeping practices and observance of safety and fire prevention especially around fueled aircraft and oxygen systems.

C. Physical Effort: Must be able to carry 50 lbs. approximately 150 feet and at times handle 100 lbs. with assistance for very short distances. Dollies are normally used for weights over 50 lbs. Heavy exertion is seldom necessary over an extended period of time. Must be able to climb, squat, stoop, and bend in open and cramped spaces. Must be able to work from stands up to 35 feet in elevation.

D. Working Conditions: Work is normally performed indoors with some exposure to one or more of the following: dust, dirt, grease, oils, aviation fuels, odors, and cleaning agents. Work may be performed on aircraft wings or platforms which may be wet during inclement weather. Noise level exceeds the standard 90 decibel level some of the time during which ear defending protection must be worn. Work is subject to normal hazards of accidents.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Aircraft Weight and Balance Specialist, 5485; and the OPM Standard for Inspectors is the most nearly related to this occupation for job grading purposes because the job is involved with the acceptability of aircraft.

Analysis and Findings

In comparing this job with the criteria of the Inspector standard the job meets Situation B of Factor I. An aircraft is composed of such complex systems as described in Situation C, but the incumbent is not involved with the systems of the aircraft. The judgments that are made concerning weight distribution of the aircraft involve components and assemblies, which are more in line with Situation B. Instructions and guides are available but are complicated and may require modification in their application. This meets Level II of Factor II. For Factor III, Situation B, Degree B best describes the skills and knowledges in terms of application of a variety of difficult techniques to examine the aircraft for proper weight and balance. Conversion of the Factor by application of the Grade Determination Chart results in WG-10. Accordingly, the proper grade of this job is WG-10 and it is properly classified as Aircraft Weight and Balance Specialist, WG-5485-10.

WG-5486-08

TYPICAL JOB DESCRIPTION

FOR

SWIMMING POOL OPERATOR, WG-5486-08

I. GENERAL

Operates and maintains swimming pool and associated facilities.

II. TYPICAL WORK PERFORMED

Checks swimming pool area and facilities to assure proper operation and maintenance. Operates circulating pumps and sump pumps and assures proper circulation through filters. Operates a small, low pressure heating plant. Opens and closes drains at appropriate times. Runs tests to determine such things as causticity, chlorine residual, alkalinity and temperature of water. Mixes and agitates chemicals and feeds them into water by hand or through chemical pumps. Switches chlorine and ammonia cylinders. Lubricates pumps and motors. Makes adjustments and minor repairs.

Prepares reports on the total quantity of water treated; amounts of chlorine, alum, soda ash, and ammonia added to water; the PH value of treated water, and the PH value of water at recirculating pumps; average residual chlorine content of the pool; the setting of the chlorinator and chemical solution feeders. Submits samples of filtered and unfiltered water. Records test results and water temperatures.

Cleans pool, facilities and surrounding area using vacuum action equipment, brushes and other cleaning equipment and materials. Checks and cleans filters, lines and pump house. Back washes filters and adds appropriate chemicals for coagulation and algae control. Requisitions chemicals and other supplies.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a knowledge of the location, function and operation of various pumps, drains, filters, chemical feeders and other facilities. Must know correct methods for running chemical and temperature tests and for reading and recording test results. Must know how to mix specified chemicals in appropriate amounts in accordance with test readings. Must be able to perform preventive maintenance to pumps, motors and other equipment and make minor adjustments and repairs.

B. Responsibility: Incumbent works independently according to written and oral policies and schedules for pool operation. Tests, measurements, and preventive maintenance are made in accordance with established guides but judgment must be exercised in such things as amounts of chemicals to be added in accordance with test readings and in determining when malfunctioning equipment requires calling in a qualified mechanic rather than minor adjustments or repairs. Work is controlled through review of reports and records and a spot check is made daily for upkeep of facilities and general adherence to policies and schedules.

C. Physical Effort: Work requires considerable standing, walking, climbing of stairs or ladders, stooping and lifting. Incumbent must be able to lift bags or other containers up to 50 pounds unassisted.

D. Working Conditions: Work is performed outdoors is hot, cold and rainy weather. Is frequently exposed to fumes or dust from various chemicals as well as burns, cuts and bruises from working with or near caustic compounds, motors, pumps and other materials and equipment. Also subject to falls.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Swimming Pool Operator, 5486, and the Office of Personnel Management Standard for Water Treatment Plant Operator, 5409 is the most nearly applicable to this occupation for job grading purposes.

Analysis and Findings

Water Plant Operators, WG-7 work in central pumping plants where the water treatment is confined to one or a few simple processes. They check pumping equipment and gages according to a prescribed schedule, making adjustments to control valves and pumps to control the amount of water or to add material to soften or aerate. They must be familiar with pumps, valves and gages and their purpose and capacity and they must know how and where to conduct and record simple tests.

The job exceeds this level and is more characteristic of WG-8 on the basis of the skill and knowledge required to independently conduct a variety of tests and measurements and to introduce a greater variety of chemicals into the system in order to maintain desirable standards. The job falls short of WG-9 on the basis of the greater complexity of the system and processes characteristic of that level. Responsibility, Physical Effort and Working Conditions required in this job are essentially the same as those in the WG-8 level criteria of the Water Treatment Plant Operator Standard. Accordingly, the proper grade of this job is WG-8 and it is properly classified as Swimming Pool Operator, WG-5486-08.

TYPICAL JOB DESCRIPTION

FOR

MOBILE EQUIPMENT DISPATCHER, WG-5701-08

I. GENERAL

Assigns operators and dispatches a variety of mobile equipment (e.g., cargo trucks, special purpose trucks, passenger vehicles and materials handling equipment) best suited for the work to be accomplished. Inspects vehicles and keeps records of vehicle status.

II. TYPICAL WORK PERFORMED

Assigns equipment and operators to individual trips and special tasks on the basis of requests received. Determines the appropriate type and size of equipment and a qualified operator based on the details of the work requirements. Instructs operators concerning any special technical or operational elements of the work which are not apparent from the work request. Establishes an assignment priority order when necessary. May plan routings to conserve travel time or distance or to accomplish more than one operation in a single run.

Maintains records of equipment status, location and numbers. Consolidates operators' trip reports and records gasoline consumption. Inspects vehicles for maintenance, safety and operating requirements. Dispatches tow trucks or repair crews to assist disabled vehicles.

May occasionally operate equipment and give operating tests to prospective operators.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Dispatchers must have intimate knowledge of the capabilities of a variety of mobile equipment and be able to project themselves into a shop environment in order to dispatch the appropriate equipment for the requirements of the job. Knowledge of transportation routes and shop locations is also necessary. Dispatcher should be able to determine the severity of equipment malfunctions and arrange for necessary repairs.

B. Responsibility: Works under general supervision. The dispatcher must see that assigned equipment is properly maintained, safely operated, and available with a qualified operator in a timely fashion for each assignment. The supervisor reviews the work performed on the basis of results achieved.

C. Physical Effort: The work is not arduous in nature and requires little lifting, carrying or stooping.

D. Working Conditions: Work is generally performed indoors in a well lighted and ventilated office. Some work may be performed outdoors in inclement weather. May be exposed to equipment exhaust fumes.

EVALUATION

Appropriate Title, Series and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Mobile Equipment Dispatcher, WG-5701. The Office of Personnel Management Standard for Fuel Distribution System Operator is the most nearly related to this standard for job grading purposes.

Analysis and Findings

WG-8 Fuel Distribution System Workers operate a complex work station or portion of a large fuel distribution system. They work from loading and pipeline transfer schedules and other instructions to load, unload, transfer or store fuel supplies. They coordinate these actions with other stations, make adjustments to maintain pipe pressure, and start or stop pumps based on the readings from tank gages, warning horns, signal lights and operating needs. They sound tanks, keep records of gage and scale readings and transfer volumes, and patrol pipelines and tank farm areas to check on the need for maintenance and repair work. This level of skill, knowledge and responsibility found in fuel distribution and control duties is comparable to the level required to perform the duties of the Mobile Equipment Dispatcher. Since Working Conditions and Physical Effort are substantially the same for both jobs, this job is correctly graded at WG-8 and is properly classified as Mobile Equipment Dispatcher, WG-570l-08

Note: The degree of selectivity in the determination and assignment of equipment by the Dispatcher to accomplish a specific work project is one of the principal distinctions between General Schedule and Federal Wage System Dispatchers. Jobs which are primarily involved with maintaining communication between the Equipment Operator and the dispatching point and performing clerical duties such as keeping records of assignments are properly classified in the General Schedule.

TYPICAL JOB DESCRIPTION

FOR

RAILROAD DISPATCHER, WG-5701-10

I. GENERAL

Controls the receipt and disposition of all railroad rolling stock entering of leaving a naval facility.

II. TYPICAL WORK PERFORMED

Controls the movement of incoming and outgoing railroad cars by assigning a locomotive and crew to specific jobs and making up switch orders. Determines the order of these movements based on the priority of the freight to be moved and the availability of different types of railcars. Maintains records of car movements, contents, and track and equipment condition. Acts as liaison in coordinating train movements with representatives of private railroads and other installation activities.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be thoroughly familiar with established regulations, procedures and methods relating to railroad operations on a government installation. Must be able to interpret and apply association of American railroad circulars and pamphlets relating to rail car loading and inspection and be familiar with the official railway equipment register.

B. Responsibility: The Dispatcher works under the general supervision of a supervisor who assigns general priorities and special requirements. However, the Dispatcher has considerable latitude in conducting daily operations and work is usually reviewed only for compliance with overall operating procedures.

C. Physical Effort: Prolonged physical effort is not usually required. A high degree of alertness and concentration is, however, necessary to monitor the safe and efficient movement of trains.

D. Working Conditions: Work is generally performed indoors with adequate heat and light. May perform some work outdoors exposed to inclement weather conditions.

EVALUATION

Appropriate Title, Series and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Railroad Dispatcher, 5701. The Office of Personnel Management Standards for Brakeman and Conductor, 5736 and Boiler Plant Operator, 5402 are the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The WG-9 Conductor, as crew member in charge of on-site operations, monitors the safe makeup, breakup and movement of a train, typically including the activities of a Brakeman and a Locomotive Engineer. The Conductor plans the best sequence of moves to expedite the operation, sites the Brakemen, insures that freight is properly secured and records the activities of the train and crew. The Railroad Dispatcher's duties exceed this level because of the responsibility for yard-wide control of trains including determining the orders of train and car movements based on the priority of the freight to be moved and the availability of different types of railcars. This special additional responsibility is analogous to the one grade credit given to Boiler Plant Operators for shift responsibility where one operator is responsible for the operation and control of an entire plant. In addition, Physical Effort and Working Conditions for both jobs are essentially the same. Accordingly, the proper grade of the job is WG-10 and it is properly classified as Railroad Dispatcher, WG-5701-10.

WG-5876-10

TYPICAL JOB DESCRIPTION

FOR

ELECTROMOTIVE EQUIPMENT MECHANIC, WG-5876-10

I. GENERAL

Tests, overhauls, and repairs a variety of electrically powered materials handling equipment, such as high lift trucks, industrial tractors, transporters, projectile lifts, cranes, and pallet trucks.

II. TYPICAL WORK PERFORMED

Overhauls equipment. Analyzes defects in operation, and locates faulty parts by observing equipment in operation and by using voltmeters and other testing instruments. Disassembles equipment to gain access to defective parts. Checks electrical circuits. Repairs or replaces such parts as contacts, brushes, field coils, switches, oil seals, bearings, and drive pinions. Tightens or solders terminal connections. Cleans commutators. Tests, turns down, and rewinds armatures and field coils. Reassembles equipment. Makes adjustments to such parts as governors, resistors, and relays to insure efficient operation. Overhauls, repairs, relines, and adjusts mechanical and hydraulic brakes and controls, gearing chain assemblies, clutches and power takeoffs. Cleans and lubricates equipment.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a thorough knowledge of the electrical systems of materials handling equipment as well as the hydraulic and pneumatic components. Must have ability to troubleshoot, overhaul and repair electric motors and circuitry. Must have ability to use a wide range of troubleshooting, testing and repairing equipment for mechanical and electrical systems. Must have ability to read and use technical manuals, illustrations, diagrams, schematics, and similar guides covering the complete assembly and layout of electrically powered materials handling equipment.

B. Responsibility: Incumbent works from instructions such as work orders, pre-repair inspection reports, oral instructions, etc. Examines, checks and tests the equipment determines type and extent of repairs; plans sequence of repairs; chooses tools and accomplishes the tasks. Work is checked at completion for adequacy.

C. Physical Effort: Work requires frequent bending, reaching, crouching, standing and arm movement. Sometimes works in awkward positions or cramped areas. Frequently lifts and carries items weighing up to about 40 pounds and Lifts heavier items using jacks, hoists or helpers.

D. Working Conditions: Work may be inside or outside. May be exposed to drafts, changing temperature, and loud noise. When working outside the weather may include rain or snow. May be exposed to dust, heat, fumes and hard damp floors and the possibility of receiving cuts, burns, bruises, strains, and electrical shock. Workers may be required to wear protective equipment such as hard hats, ear devices, eyeglasses, gloves, etc.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Electromotive Equipment Mechanic; and the OPM Standard for Powered Support Systems Mechanic, 5378 is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

The equipment repaired in this job compares to the equipment repaired by WG-10 Powered Support Systems Mechanics who troubleshoot, overhaul, rebuild and repair powered support systems with the major components such as engines, generators, etc. in aircraft ground support equipment, construction support equipment, etc. This requires a knowledge of the mechanical and electrical makeup and operation of such equipment, which is comparable to the skill and knowledge required for this job. Responsibility, Physical Effort and Working Conditions required in this job are essentially the same as those in the WG-l0 criteria for 5378 Powered Support Systems Mechanic. Accordingly, the proper grade of this job is WG-l0, and it is properly classified as Electromotive Equipment Mechanic, WG-5876-l0.

JOB GRADING AND COVERAGE GUIDANCE

FOR

MATERIALS HANDLER, 6907
(WG-4-6, Leader, Supervisor)

Introduction

There are number of common factors that will have to be analyzed prior to determining the proper classification of a materials handler job. These factors fall under the headings of pay category, series, and grade. An understanding of these factors, and their relationship to the Materials Handler and related occupations, will enable activity classifiers to make correct grading determinations despite the variety of warehousing functions and organizations in which they are located.

Pay Category

Some positions which involve the receipt, storage, and issue of supplies also include the maintenance of associated documentation to the extent that a decision on the appropriate pay category is difficult. These mixed pay category positions are subject to the guidance on mixed positions in Section IV of the General Introduction, Background and Instructions to the Position Classification Standards. This guidance states that the first step in determining the pay category is to determine the primary duty. A clue to the primary duty may be found in the purpose and complexity of the documentation maintained. If the records serve to identify items to be received or issued from the warehouse (e.g., bills of lading), or to verify and reconcile master records, or are provided to another position or section for further processing where accountability is maintained, then the record keeping is secondary to the warehousing. Therefore, since the physical handling of stock constitutes the primary purpose and duty, the position should be classified under the Federal Wage System (FWS). If the records which are maintained serve as the primary source of information such as supply category, stock level, cost or stock number, however, then the responsibility for accurate record keeping is the purpose of the position and constitutes the primary duty. Such a position is classified under the General Schedule (GS). To illustrate the determination of pay category, the following brief duty statements are provided as examples:

1. Receives and stores incoming supplies. Verifies and signs bill of lading and provides it to Documentation Section for further processing. Issues supplies to customers and obtains customer receipt for processing by Documentation Section. Consolidates supplies of the same type into minimum number of locations. Maintains records designating the location and quantity of items on hand to expedite obtaining supplies for issue, consolidation or movement. Since these duties involve warehousing functions and the record keeping is of a support nature, the position is classified under the FWS.

2. Physically counts inventories, reconciles count with computer generated count cards and updates master computer inventory listing.

Moves stock to consolidate supplies of the same type and facilitate inventory count. Since accurate record keeping is the purpose of this position, the position is classified under the GS. Positions in which physical inventory is auxiliary to other warehousing functions come under the FWS.

3. Verifies the quantity, price, unit of issue, conditions, classification, and stock or control number of material in storage. The count involves climbing racks, leaning into bins, bring1ng down pallets to more convenient locations and handling heavy containers. Although this position appears to be GS at first glance, a closer analysis reveals that the work primarily requires a knowledge of warehousing methods, procedures and storage locations rather than that of supply operations, program requirements and the ability to apply established supply policies and regulations. As such this work is properly classified by reference to the FWS Materials Handler Standard.

It is apparent from these examples that the determination of the primary duty of a position for pay category purposes requires a knowledgeable analysis of the position using both FWS and GS criteria. Often the task can be facilitated by considering the environment that surrounds a particular position. These environmental factors would include the nature of the organization, working relationships with other positions in the organization, normal lines of career progression, equitable pay relationships with other positions within the immediate organization and management's intent in creating the position.

Series

Once a determination has been made that a job is properly covered by the Federal Wage System, it must be reviewed for occupational duty content. Many duties performed in warehousing activities are not themselves those of a Materials Handler, rather they are supportive of the function, e.g., laboring and equipment operation. The Introduction to the Federal Wage System Job Grading System notes that mixed jobs such as this should be graded in keeping with the duties that (1) involve the highest skill and qualification requirements of the job and (2) are a regular and recurring part of the job, even if the duties involved are not performed for a majority of the time. This guidance is important to remember since the highest level of work in a particular job may include duties that resemble those discussed in the Materials Handler Standard, but would be more appropriately graded by reference to another OPM Standard such as Materials Examining and Identifying, Fork Lift Operator, or Tools and Parts Attendant.

The best way to begin reviewing related occupations is to look at the series coverage of the Materials Handler Standard itself. The WG-6907 definition includes work involved in the receiving, storing, and assembling for issue or shipment; and distributing a variety of bin and bulk supplies, materials, equipment, and commodities. This work requires a knowledge of the methods used in processing, handling, and storing of materials and equipment through a supply facility; the ability to log receipt, storage, and shipment data; and the ability to use manual or mechanized equipment to move, stack, bin, and position materials and equipment. Such jobs are located in operations such as

freight terminals, mechanized and non-mechanized warehouses and open storage areas.

This occupation coverage statement somewhat resembles that of the 6904 Tools and Parts Attendant since jobs covered by either standard involve receiving and storing equipment and supplies. The primary requirement of the Tools and Parts Attendant; however, differs from that of the Materials Handler because the job involves issuing and checking in tools, equipment, shop supplies and repair parts directly to or from production workers such as Machinists and Aircraft Mechanics and requires that the attendant have a knowledge of various tools and parts in order to correctly issue the items requested or recommend substitutes. Another occupation found in a production environment which resembles the Materials Handler is the Materials Expediter, 6910.

Employees in this classification route and expedite the movement of parts, supplies, and materials to meet priority needs within production and repair facilities. This work has a primary requirement that the expediter be familiar with material characteristics, uses, condition, industrial production shop procedures, shop layout, and internal supply sources. This knowledge is necessary to perform such duties as locating and replenishing bins with low stock levels, obtaining needed items from other material support units, assembling items into kits and delivering priority items directly to the appropriate production shops.

Another related occupation the 6912 Materials Examiner and Identifyer identify, condition classify, categorize, and process materials and equipment according to established procedures. These duties require the worker to have the ability to recognize various stock classes, determine the condition of the item by visual observation or by performing a few simple tests, and to have a knowledge of documentation and routing procedures in order to provide for the item’s technical review, storage, repair or disposal.

The 6914 Store Worker also performs work similar to the Materials Handler in receiving and unpacking supplies, checking for proper quantity, damage, shortage or overage, and storing supplies in proper locations. The store worker, however, works in the retail environment such as a Servmart where the storage of material is short term and there is a heavy emphasis on displaying it in a manner which appeals to customers. This requires other skills and knowledge such as price marking items, preparing and stocking merchandise on display shelves, maintaining shelf stocks, answering customer inquiries and reporting customer preferences.

The Navy rating of Stevedore, 3543, has also been the cause of some Confusion concerning its application and coverage relative to Materials Handler jobs. Stevedores work in a quasi warehousing setting under the ship’s tackle and dockside to load and unload ships and other vessels. In addition they transport materials between dockside and the ship’s deck or hold and perform the rigging, lashing, and stowing necessary to load and unload the vessel. A job must have all these characteristics to be considered a stevedore. Since few activities have a requirement for full-time Stevedore jobs, this rating is usually used on a when-actually-engaged basis for employees in related classifications such as Materials Handler. Although the qualifications necessary to perform stevedoring work are similar to those of the

Materials Handler occupation, classifiers should be aware that the grading analysis of these jobs is appropriately made by reference to the OPM Standard for Blocker and Bracer, 4602 since it better reflects the primary purpose of the Stevedoring occupation to perform work involving loading, securing, or unloading ship's cargo.

As a final example of how a series allocation is determined for a job with mixed duties, consider the following duty statement: The incumbent prepares tally lists of material quantities, visually checks material for damage or deterioration, stacks and piles items according to instruction, and loads and unloads heavy boxes and bulky supplies. The incumbent also opens crates and boxes using crowbars, cuts bands using shears, and operates a fork lift capable of lifting loads up to 4 tons as high as 12 feet. The fork lift is driven over concrete floors of a warehouse. These responsibilities include duties that are mentioned in the Job Grading Standards for Materials Handler, Laborer, and Fork Lift Operator. At first glance, it appears as if the position should be classified as a Materials Handler. However, a quick review of the applicable standards indicates that the laboring duties match the WG-2 level, the materials handling duties match the WG-4 level and the fork lift operations match the WG-5 level. Applying the mixed job grading criteria outlined in the Introduction to the FWS Job Grading System, the job is correctly classified as Fork Lift Operator, WG-5704-05. The rationale is that jobs requiring the performance of work in two or more occupations are coded to the occupation which is most important for recruitment, selection, placement, promotion, or reduction-in-force purposes. Generally, the series of the highest skill requirement of the job is considered most important for these purposes.

Grade

Materials Handlers often are assigned to a general job description that is designed to cover several work situations. In some instances the duties described in these jobs are at more than one grade level. Where this situation exists, good position management procedures dictate that the job be reviewed to determine the feasibility of restructuring it. For example, tasks that are purely manual labor such as lifting, loading and unloading could be allocated to Laborer jobs; and jobs that require only the lowest level of materials handling skill and knowledge could be allocated as WG-4 Materials Handler.

Briefly, the WG-4 Materials Handler performs routine and repetitive materials handling tasks such as comparing the markings and quantities of items with receiving reports and storing or assembling items according to detailed instructions. The WG-5 Materials Handler functions as a full journey level worker who uses a knowledge of the overall warehousing plan and accepted warehousing methods to select storage locations and stores, stacks or palletizes items based on their use, size, shape, quantity, and possibility of contamination. The WG-6 Materials Handler, on the other hand, is either responsible for all function (receiving, storing, issuing or shipping) within a small warehouse or a single function within a large warehouse.

Situations contrary to this normal progression such as where there are no WG-4 Materials Handlers in the organization or inexperienced personnel are being hired at the WG-5 level should be avoided.

In order to provide some clarification and guidance, a number of commonly encountered warehousing duties have been identified and graded in accordance with the criteria of the Materials Handler Standard. While these typical duties are not intended to be all inclusive, hopefully they will be helpful to activity classifiers in applying the Materials Handling grading criteria to the situations at their activities.

Every warehousing operation has WG-4 level work. WG-4 Materials Handlers manually stack, palletize, arrange and rotate items accordingly to height, width and weight instructions provided by a supervisor. WG-4 Materials Handlers must know the general layout of established bin, bulk and other storage locations. They compare markings and quantities of incoming items with receiving reports; place, arrange, rotate, mark and tag items on pallets, in bins, and in other storage locations, and assemble items for issue and shipment according to clear and complete instructions. As an example of how these criteria are applied, the following typical materials handling duties are considered to be WG-4 level work:

- Screens receiving documents and items to verify stock number, quantity, nomenclature and condition of items. Notes discrepancies on receiving reports and notifies responsible personnel. Moves items to storage locations and cheeks against items already in stock to verify that received and stock items are identical. Stores items following required practices.

- Consolidates and rough packs items in containers for shipment or delivery to local customers. Straps to pallets with hand strapping equipment.

- Works in an automated materials handling system (AMHS) warehouse where the operation is highly structured, with repetitive work being accomplished according to clearly established procedures. Performs duties such as pulling packing documents and forwarding to key punch operators to obtain a destination card. Groups packages by destination. Visually inspects containers for obvious damage. Moves to predetermined location using manually powered equipment.

- Picks items from bin areas and places in bags with documents. Places tote pans for scheduled calls on AMHS conveyor system. Notes discrepancies and low bin levels and notifies responsible personnel.

WG-5 Materials Handlers handle the receipt of incoming shipments from the off loading stages through the movement of items to storage areas; select proper storage locations; assemble items for shipment; and store, stack, and palletize items without instructions on the methods or procedures to be used. The following duties are considered to be WG-5 level work:

- Loads and unloads cars, trucks and vans while tallying and checking supplies against receiving documents. Stores material in storage areas on pallets, racks, bins, stacks or piles according to planograph locations and storage requirements for the type of material involved. Forwards documents to processing points. Based on information in issue or shipping documents determines the priority in which to accomplish

the job. Selects material from storage locations, attaches documents and moves to assembly or shipping points. In issuing or shipping shelf life items, issues the oldest item first unless an allowance is needed for shipping time. May over or under issue bulk items within established limits and system requirements. Uses catalogs or microfiche readers to resolve stock discrepancies.

- Separates and moves materials along a pier into assembly areas designated by destination. Checks documentation for port of discharge, quantity, type and size, carrier's name and bill of lading number. Remains alert to partial shipments and adds the balance upon arrival. Diverts security cargoes such as chemicals or pilferable items to a secure area. Checks materials to make sure that the complete shipment is present and loaded.

WG-6 Materials Handlers are responsible for all functions (receiving, storing, issuing and shipping) within a small warehouse or for a single function within a large warehouse. In performing these duties the WG-6 Materials Handler may give directions to lower level employees who are assigned for support or assistance. Typical work situations at the WG-6 level are:

- Responsible for all warehousing operations in a bin and bulk storage area (security areas, steel yards, disposal areas, and salvage yards) relative to physically receiving, storing, rewarehousing, locating and issuing material. Directs work of a small group providing support, e.g., Laborers, Fork Lift Operators and lower level Materials Handlers. Prepares production reports, checks records and screens issue documents in order to fill in missing data. Maintains storage area in accordance with applicable regulations. Responsible for loading and unloading operations.

- Receives and checks incoming shipping documents. Determines from shipping documents whether all of the material will be accepted into the warehouse or diverted to another area. Assigns a lower level worker to receive and check material to be off loaded.

-Receives and checks issuing or disposal documents to determine quantity and type of item. Takes inventory to determine balance on hand and retains quantity indicated by document. May change disposal quantity based on inventory count. Separates and assembles items according to value, destination or whether item should be demilitarized. Attaches documents to items and stores in a hold area until the items are called for.

- May be assigned to rewarehouse a large storage area. Determines better storage locations based on type and size of item, shelf life and security requirements.

Use of Leaders

When a position has regular and recurring responsibility for directing a crew of 3 or more persons to accomplish a warehousing function, the job grading standard for Leader should be reviewed to determine whether the position exceeds the implied responsibility for work force direction typical of the WG-6 level and should be graded as a Wage Leader. The WL allocation is appropriate when the primary

responsibility of the position is leading, directing, and training lower level workers. Care should be taken, however, in determining the appropriate level of warehousing work led, since by definition the degree of independent authority and responsibility vested in WG-6 Materials Handler obviates the opportunity for other employees to exercise lead responsibilities over them.

Application of Supervisors' Standard to Mixed Grade Function

In determining the level of work supervised where there is a mix of WG-5 and WG-6 warehousing work special attention should be paid to the provision in the Supervisors' Standard on page 15 which deals with a very basic tenet in grading FWS jobs - "the total job concept." That provision states: "Determine the nonsupervisory grade which best reflects the difficulty and complexity of the overall work operations supervised. Usually, this is the grade of the highest level nonsupervisory employees who are supervised and who under normal job controls, perform the work of the occupation selected ..." (Emphasis added) In most mixed grade warehousing functions it is the WG-5 Materials Handler who operates under these normal job controls referred to in the provision, with the WG-6 level operating with considerable independent authority in the day to day operations of his functions. This is not to indicate, however, that the WG-6 level is never to be used. Prudent judgments must be made in this connection keeping in mind the total job concept.

ADDENDUM TO JOB GRADING AND COVERAGE GUIDANCE

FOR

MATERIALS HANDLER, 6907

One of the problems in choosing between Materials Handler grades WG-6 and WG-5 stems from the following statement in the standard at WG-6: "The WG-6 Materials Handler is typically assigned work involving the accomplishment of a complete warehousing operation, e.g., involving one or a combination of functions such as receiving, shipping, storing, or issuing." We view this statement as an attempt to convey the scope of WG-6 level assignments, i.e., that all the steps in one complete warehousing operation are accomplished without instructions except on changes in the general warehousing plan or established requirements.

A complete warehousing operation may consist of receiving, storage, issue, or shipment or a combination of these operations. Responsibility for a complete operation is only one characteristic of WG-6. A job would not meet that level if it does not involve the kinds of warehousing decisions and actions further elaborated upon at that level of the standard. For example, a WG-6 receiving operation is one in which the worker must determine which docking area is most convenient for off-loading; when and how items are to be consolidated in holding areas, etc. When someone other than the worker in question makes these decisions, when the decisions are straightforward or circumscribed by set procedures, or when there are few significant decisions to make because of the uncomplicated nature of the operation, then the "complete warehousing operation" would not be satisified.

By the same token, the question of how large a warehousing operation must be in order to warrant the WG-6 level is not material except for the fact that large warehousing operations usually entail more decision making activity than small operations of the same kind. Of primary importance, therefore, is the kind of independent action and decision making involved in the area for which the Materials Handler is responsible.

In examining a wide variety of materials handling jobs, it has become apparent that the amount of WG-6 materials handling work has decreased over the years for one or more of the following reasons:

- Leader jobs have been established which have diluted the responsibilities of existing Materials Handlers WG-6.

- Much of the WG-6 work is done in combination with leader duties and has been legitimately classified as leader (when that classification results in a higher rate of pay).

- Computerized storage and retrieval systems and other improved procedures have reduced the need for on-site worker decisions on storage and other matters.

- Specialization has diminished responsibility to some extent such as where stations have been established in large storage operations to handle missing or misrouted items.

The WG-5 level therefore has been emerging as the more typical full performance level. In fact, some functions such as the more routine stock picking tasks, can be isolated and structured into continuing jobs at the WG-4 level. In such cases, a leader, or WG-5 or WG-6 handler can make decisions on exceptional transactions.

The cases which follow are additions to the illustrative work assignments in the basic guide:

ADDITIONAL ILLUSTRATIVE WORK ASSIGN1MENTS

WG-4

Materials Handler - Storage Branch - Naval Supply Center

Receives issue documents screened by a higher grade materials handler or leader in a binnables area. From document color code and computer coded information on the document, determines the priority sequence in which to make the issue, the stock number, item location, quantity to be issued, name of customer, and shelf life or other requirements. Selects designated items from storage location, makes required annotations on document, attaches document to material, assembles material in boxes or pallets, according to quantity involved, and moves to designated assembly area for further processing. Detailed directions are normally not provided for making individual issues. Incumbent works within the framework of standard procedures and methods and brings discrepancies, such as incomplete documents and other problems to a higher grade worker or leader for resolution.

According to the 6907 standard the WG-4 handler receives oral and written instructions concerning how to select items for shipment and issue. These instructions are clear and, although WG-4's carry out repeated assignments under general supervision, a higher level worker or supervisor gives specific instructions on how to do new operations. WG-4's must know the general layout of established bin, bulk, and other storage locations such as aisles, rows and tiers, and how these locations are marked, tagged, and otherwise identified. They must be able to match such specific item identifications as name, stock or part number, letter and number codes, quantity, and units of issue on containers and at stock locations, with those on receiving reports and issue request forms.

The job matches the description of WG-4 level work rather than WG-5, which involves more difficult and responsible issue assignments such as those requiring segregation of materials according to such factors as condition, type of transaction, or property class, and routing along appropriate process lines. Routine stock picking functions as described in this job generally do not match the WG-5 level requirement for completion of assignments "within the general warehousing plan and without instructions on the methods, procedures, or techniques to use" since this implies a measure of

experience and judgement which is not met where the procedures to follow are clear, and where it requires only a knowledge of stock locations in a specified area, the ability to read procedural documents, and a knowledge of the routine of the storage area.

WG-5

Materials Handler- Steel Yard - Naval Supply Center

Unloads, tallies, checks, stows, assembles for issue, and loads material for shipment in a steel yard. This is a large outdoor area used for storage of large steel plates, angle iron, large aluminum sheets, large stainless steel plates, metal pipe ranging from 1" to 12" diameter, and other similar material.
Offloads material from trucks and railroad cars by forklift or with the assistance of a crane. Checks and tallies material against receipt documents. Spots material for crane operators, as necessary. Selects proper stowage in accordance with knowledge of existing locations or prior instructions from the leader or supervisor and stows material or guides the crane operator in proper stowage.

Checks issue and shipping documents and assembles material for issue and/or shipment. This may entail cutting pipes and I beams to proper dimensions by positioning the item and operating a metal sawing machine. Loads material on trucks, railroad cars, or other conveyances by forklift or by guiding crane operators in this task.

The incumbent independently carries out receipts and issuances based on general instructions and knowledge of the routine of the steel yard, using judgement on when to consult the leader or supervisor. Oral instructions are received in terms of such things as changes in storage locations for a class of material and scheduled rail and truck arrivals.

According to the 6907 standard, WG-5 assignments include handling the receipt of incoming shipments from the offloading stages through movement of items through their storage areas; selecting proper storage locations for items, assembling items for shipment; and storing, stacking, and palletizing items without instructions on the methods or procedures to be used. The incumbents of this job are capable of handling most receipts and issuances based on established routine. This includes, on the receiving side, all steps from tallying the shipment and offloading, to movement and stowage. There are relatively few items and the general locations for stowage are rather obvious. However, the kind of experience and judgement needed in handling, moving, and stowing heavy, bulky items such as steel plate is considered to offset this shortcoming. For example, WG-5's "must know from past experience...the heights, widths, and weights at which items may be stacked on pallets and in bin and bulk locations to prevent tipping, crushing, or other damage”.

WG-5

Materials Handler- Production Planning and Control Department -

Naval Aviation Depot

Incumbent unloads, receives, sorts and delivers material by means of a 1/2 ton pick-up truck. Unloads material manually or by use of mechanical equipment. Removes a copy of shipping document from each receipt for processing by other employees and returns the document to a higher grade Materials Handler for matching with the shipment prior to delivery to destination. Separates unloaded materials according to destination by identifying and verifying description of materials with appropriate paper work. Loads separate materials and delivers to destination. Loads return materials and supplies destined for Supply Department and delivers in a ½ ton pick-up truck.

The work requires a knowledge of shop locations within the facility and familiarity with Requisition System Document DD-1348, including location of the document number, stock number, quantity, and destination. The work is performed independently within established procedures. The supervisor provides general directions on daily operations and incumbent uses judgement in the details of unloading, checking, sorting, loading, and delivering materials to designated end delivery areas as well as in securing loads on truck. Incumbent uses judgement in requesting assistance. For example, checks with a shop supervisor for alternate off loading site for equipment which is too large for designated delivery area; or when material is observed to be damaged, notifies supervisor.

According to an OPM decision on a similar job, the 6907 standard "contemplates that a WG-5 Materials Handler will receive, unload, and process incoming shipments, assembling items into groups based on information shown on receiving vouchers, and, as required, segregate materials according to prescribed factors; assemble items for shipment; and store, stock, and palletize items without instructions on what methods or procedures to use. While little supervision is exercised over the WG-5 Materials Handler, standard procedures are followed and completed work is normally reviewed." . . . ''The WG-6 criteria are not met in that (l) you are not involved in the operation of a complete warehousing operation. (2) the established procedures under which you work preclude your making the kind of determination described at the WG-6 level; and (3) the single document with which you routinely work (DD-1348} does not constitute determining what work is to be done from the information on various documents, as described at the WG-6 level."

WG-5

Materials Handler- Storage Branch - Naval Supply Center

In the receiving area in storage operations, screens documents and items received to verify stock number, quantity, nomenclature, and condition of items. Notes discrepancies in receipt items, notifies appropriate personnel and annotates documents with required information. Initiates requests via remote operators to verify item locations. Moves items to appropriate storage location and checks against items already in stock to verify that receipt and

stock items are identical. Stores items in bin or bulk area following standard practices. Depending on situation encountered, may determine and select new storage locations, prepare documents to establish new location and change or delete the old location. Forwards receipt documents properly annotated to appropriate personnel.

Works under the guidance of a higher level worker or leader assigned responsibility for the area. Completes assignments from a knowledge of the warehousing plan and standard procedures without detailed instructions except in new situations. Follows established procedures in reporting various discrepancies or unusual situations. Work is reviewed in terms of results achieved but is subject to spot check in progress or upon completion of various tasks.

According to the 6907 standard, in comparison with the WG-4 Materials Handler who puts items away in indicated locations, selects clearly identified items for issue, and performs similar routine and repeated tasks according to detailed instructions, the WG-5 Materials Handler performs more difficult tasks such as handling the receipt of incoming items from the off loading stages through movement of items to their storage areas selecting proper storage locations for items; etc. The WG-5 has a knowledge of the overall warehousing plan and accepted warehousing methods, procedures and techniques and uses this knowledge to select storage locations and store, stack, and palletize items in consideration of their use, size, shape, quantity, and possibility of contamination. The job does not squarely fit the situation described above - in this situation, there is a central receiving area from which items are off loaded from trucks or railcars, and the incumbent works in a storage area where items are routed from central receiving. Nevertheless, the incumbent is expected to independently take actions involved in checking, verifying, moving, and storing items, including establishing new storage locations and completing necessary paperwork except in unusual cases. In large binnable and bulk areas, storage locations and procedures are fairly standarized so that the difference between WG-4 and WG-5 is primarily found in the degree of independence of action and the extent to which problems or non-standard situations are resolved without assistance from higher level personnel.

WG-5

Materials Handler - Material Branch, Navy Regional Medical Center

The incumbent is responsible for all work operations in an assigned storage area including, physical receipt, storage, and Issue.

Twenty percent of the time is spent on receiving material from carriers or from the receiving section. Incumbent verifies material against source documents and determines necessary storage or transportation action based on information in the receiving report.

Twenty percent of the time is spent on storage duties involving determining which area will be used for material storage and replenishing bin items from bulk stock. For each item there is a corresponding IBM card which identifies the shelf or bulk storage location. Large items are placed on pallets which have location numbers painted on the floor of the warehouse. For items having no designated location, the foreman selects an open space from a list, assigns it for storage of the new item and notifies the incumbent.

Fifty percent of the time is spent on issue duties which involves selecting the requested item, annotating a card with the amount withdrawn, and assembling the material for pick-up by the customer.

Ten percent of the time is spent on care of material in storage, checking shelf life and turnover, rotating stock, and other related duties.

The incumbent completes all assigned work within established guidelines. Trains and directs assistants as assigned.

According to a 1979 OPM decision, the work compares favorably with the WG-5 level. The following is an edited version of that decision: At the WG-5 level, materials handlers must know from past experience or from information in storage manuals the heights, widths, and weights at which items may be stocked on pallets and in bin and bulk locations to prevent tipping, crushing, or other damage. They receive, unload, and process incoming shipments; assemble items into groups based on information shown on the receiving vouchers and, as required, segregates materials according to such factors as condition, type of transaction, or property class and routes along appropriate processing lines. They follow established procedures for when and how to report over, short, or damaged conditions to their supervisor or other persons responsible for such matters.

At the WG-5 level, materials handlers, in addition to matching item identification on issue requests with that at stock locations, also check lists showing stock identification changes to insure that the proper items are selected and assembled for issue. They select items for shipment or issue and see that items ready for shipment are properly assembled in the loading area according to information provided on the shipping requests, check the conditions of shipping containers prior to loading, and see that shipments are properly loaded onto the right conveyances. Your duties entail skills and knowledges comparable in scope and complexity to those described above in checking material received for damage and pilferage; verifying quantities with those indicated on attached documents; and storing material according to numerical system (shelves) and pallet location (bulk). You issue materials, annotating amounts withdrawn on control cards.

Your duties do not involve the knowledges or skills exercised by WG-6 Materials Handlers. At that grade level, materials handlers determine within the general warehousing plan how to organize and arrange stock in the storage area for maximum convenience of

handling and ease of movement, as well as protection from damage, deterioration, and pilferage. Your supervisor exercises these knowledges and skills assigning storage spaces for new items. Materials Handlers at this level keep track of turnover of items on hand, and recommend through their supervisor increases and decreases of stock, as appropriate. Your employing agency indicates control is done automatically through a computer system.

In addition to receiving, unloading, and processing the incoming shipments...WG-6 Materials Handlers prepare receiving reports for locally purchased items and shipments not accompanied by a receiving voucher. They obtain information from such documents as way bills, government bills of lading (GBL), railroad manifest sheets, and carrier arrival notices...They determine when and how items are to be consolidated in hold areas for inspection, transfer, reshipment, or placement in proper storage areas. They see that the shipment is unloaded in proper sequence and designate placement of items for checking. They flag special shipments of priority items needed to prevent work stoppages. Your duties do not entail the more complex knowledges and skills required at the WG-6 grade level.

WG-6 Materials Handlers determine the specific dock and hold locations most suitable for assembling each shipment as well as where trucks, railroad cars, or other conveyances will be spotted to pick them up, segregate and move material to designated holding areas on the basis of such factors as priority shipment, type of material, mode of transportation, and specific destination. When shipments or issues are short an item, they are able to track down and obtain items from elsewhere in the local supply system. For this purpose, they must be familiar with central locator or other operations that maintain stock inventory and location information in order to determine whether or not the item is available and its location. Your duties in maintaining the material location system and assisting in inventories do not approach the material system knowledge or intervention envisioned at the WG-6 grade level.

As at the WG-5 grade level, you complete your task assignments within the general warehousing plan and without instructions as to methods, procedures, or techniques to use. WG-5 Materials Handlers follow established procedures for reporting to the supervisor' such things as tampered or broken seals on boxcars, damaged incoming shipments, and corroded, rusted, crushed, or other obviously damaged or deteriorating items in storage areas. They complete and sign shipping and receiving reports. A supervisor normally reviews completed work to see that accepted shipping, receiving, processing, and warehousing methods, procedures and techniques have been followed.

Your responsibility does not compare favorably with that at the WG-6 grade level. At that grade level, materials handlers are typically assigned work involving the accomplishment of a complete warehousing operation, e.g., involving one or a combination of functions such as receiving, shipping, storing, or issuing. They establish the order in which the receiving, issuing, shipping, or storing function will be done. They decide on the sequence of steps, methods, procedures, and techniques proper for the work

assigned and complete the work in its order of priority on a timely basis. Nor do you establish the order in which work must be done within the functions you perform. Rather, you complete work as assigned as at the WG-5 grade level. Your work is not reviewed on the basis of results achieved, for example, how well schedules and priorities are met, extent and basis of customer complaints, accuracy of stock balances fund during inventories, and whether the storage area is kept within the general warehouse plan. Your work is reviewed for assignment achievement as at the WG-5 grade level rather than the function achievement described above at the WG-6 grade level...

In summary, we find the duties and responsibilities meet the WG-5 grade level.

WG-6968-07

TYPICAL JOB DESCRIPTION

FOR

AIRCRAFT FREIGHT LOADER, WG-6968-07

I. GENERAL

Functions performed include freight checking, loading, unloading and blocking and bracing of various cargo on visiting military and civilian aircraft.

II. TYPICAL WORK PERFORMED

A. The Freight Loader is responsible for knowing the weight and type of cargo to be off-loaded from aircraft. He is responsible for having cargo positioned for loading, based upon destination and priority of shipment. Keeps abreast of traffic on hand in the terminal, its destination, weight, and priority, in order that it can be quickly assembled for loading or palletization. Boards aircraft and locates cargo to off-load by checking markings and shipping papers. Loads and directs the loading of aircraft and/or palletization of cargo. Shifts cargo from one compartment to another and otherwise rearranges to properly balance load, in accordance with specifications for type aircraft. Maintains records of pieces being loaded, weight of each piece, and compartment/pallet it is located in. Insures that cargo is loaded in a way to simplify off-loading at next station. Secures or directs the securing of cargo using chains, straps, or line depending upon weight of item being secured in compliance with aircraft Technical Orders for proper securing of air cargo. Uses chain tightener to secure lines and buckles to fasten straps. Tightens and inspects tie-downs to the extent required to secure load. Checks weight and balance of loaded aircraft by use of adjuster (slip stick) or loading guide form for type of aircraft, insuring that the weight in each compartment does not exceed the allowable maximum for the aircraft. Signs loading guides to indicate proper loading and balance of aircraft and obtains pilot's signature to indicate acceptance of load. Informs supervisor of any unusual cargo such as classified or dangerous cargo, and of any loading which varies from the normal. Insures that incompatible cargo such as acids and explosives are not loaded in the same aircraft. Prepares reports of damaged shipments.

B. As required, operates fork lifts and loaders, ground support equipment, and over-the-road equipment such as pick-ups, mini-busses, small crew busses, and other vehicles assigned to the Air Terminal. Services equipment.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to read and interpret technical manuals and instructions applicable to various cargo aircraft (re: stress/strain/proper tie-down/compatibility of cargo, etc.), in order to apply principles of safety to loading operations. Must have elementary knowledge of mechanical principles involved in the operation of ground support equipment and be able to service ground support equipment used in carrying out the work making very minor repairs and adjustments as needed. Must be able to use slide rule or aircraft loading guide applicable to each aircraft.

B. Responsibility: Works under the general supervision of a supervisor. Instructs and provides guidance to Materials Handlers and Laborers assigned to assist him in aircraft servicing and loading duties.

C. Physical Effort: Required to do a considerable amount of bending, stooping, lifting, and pushing in the loading and unloading of aircraft. Work pace varies depending upon air schedules and volume of cargo on hand.

D. Working Conditions: Exposed to usual hazards associated with working around aircraft; i.e., from moving parts, air turbulence, high noise levels, injury to hands and feet, etc., from metal bands, and possible falling of loads. Required to work outdoors in all types of inclement weather while airfield is open. Exposed to such uncomfortable environmental conditions as aircraft engine noise, dust, rain, snow, heat and cold, and unpleasant odors.

EVALUATION

Appropriate Title Series and Cross Reference Standards

The appropriate title and series for jobs whose characteristics match this typical job description is Aircraft Freight Loader, 6968; and the OPM standards for Materials Handler, 6907 and Blocker and Bracer, 4602 are appropriate for job grading purposes.

Analysis and Findings

The receiving, shipping, storing, or issuing functions performed by the Aircraft Freight Loader are similar to those depicted in the Materials Handler standard at the WG-6 level. However, securing or directing the securing of cargo using chains, straps, or line in compliance with aircraft Technical Orders, checking weight and balance of loaded aircraft, and insuring cargo is properly stowed and secured matches the requirements described at the WG-7 level of the Blocker and Bracer standard. The job does not match the complexity of skills and knowledge or the level of responsibility found at the WG-8 level. Other work requirements, such as operating fork lifts and loaders, ground support equipment, etc., do not affect the grade level of the job.

The physical effort and working conditions are essentially the same as those described for the WG-7 Blocker and Bracer. Accordingly the proper grade of this job is WG-7, and it is properly classified as Aircraft Freight Loader, WG-6968-07.

TYPICAL JOB DESCRPITION

FOR

AIRCRAFT OXYGEN EQUIPMENT REPAIRER, WG-8201-09

I. GENERAL

Examines disassembles, overhauls, repairs, modifies, calibrates, and tests oxygen, nitrogen, carbon dioxide, and other types of gaseous or liquified gas equipment such as positive pressure and demand type pilot oxygen regulators, masks and hoses, pressure switches, valves, manifolds, blocks disconnect assemblies, tanks, cylinders, trailers, and bottles. Services and fills such units with both liquid or high pressure gages.

II. TYPICAL WORK PERFORMED

Disassembles, cleans, examines, repairs, overhauls, calibrates, and tests pilot oxygen regulators both positive pressure and demand types. Also reworks components such as pressure switches, purging heat assemblies, valves, block assemblies, manifolds, disconnect assemblies, overhauls field test sets that are necessary to maintain full pressure suits, and other oxygen system components. Disassembles, diagnoses troubles, determines parts required, takes action to procure them, repairs and/or replaces such parts as necessary on all oxygen and other gaseous systems' components, makes exact adjustments such as precise alignment of the integral parts and the adjustments of internal parts. Replaces and/or repairs such parts as rubber, plastic, teflon, paper and fiber washers, counter weights, inlet valves, pressure breathing masks, demand valves, aneroids, mixing tubes, pressure gauges, and flow indicators. Makes final adjustments such as pressure breathing, inlet pressure, safety pressure, pressure suction, and emergency pressure. Tests the regulators for leakage, inward and outward pressure breathing, oxygen ratio, flow suction, safety pressure, flow indicator, and emergency pressure. Also repairs, modifies, and replaces contents of survival kits, and parts of pressure switches, valves, block assemblies, manifolds, disconnect assemblies, and other oxygen system components. Also reworks oxygen bailout bottles, nitrogen and oxygen (liquid and gaseous) trailers, LOX purge units, LOX converters, oxygen, nitrogen, carbon dioxide and other types of gas storage cylinders and various types of high pressure gas storage tanks, trailers, cylinders, and bottles. Operates machines and equipment required to test such units.

III. FACTOR STATEMENTS

A. Skill and Knowledge: The incumbent must apply a comprehensive knowledge of the design, basic principles, and operating characteristics of a variety of oxygen regulators both positive pressure and demand types. Must be familiar with the various parts and components of the pilot oxygen regulators. The incumbent must have a knowledge of blueprints, specifications, schematics, and local engineering instructions governing the disassembly, overhaul, modification, and test of regulators and related components. Must be able to use test equipment to check out leakage, pressure breathing, oxygen ratio, flow suction, safety pressure, flow indicator, and emergency pressure. Must have the knowledge to convert the readings from graphs to the individual test stand in conjunction with the overhaul manual for the particular oxygen regulator and prepare check sheets. Must have the skill to operate a variety of test equipment, including

oxygen test stands and oxygen system component test stands. Must have a knowledge of safety procedures in working with oxygen and other gaseous systems. Must have knowledge of mechanical repairs required on liquid or gaseous storage carts and tanks.

B. Responsibility: The incumbent is under general supervision and works independently with a minimum of instructions. Is required to determine whether or not unit needs to be overhauled or repaired. Accepts malfunctioning units, diagnoses problems, and only does work required to produce a suitable unit. Inspects and certifies own work for operation and final acceptance using personal artisan certification stamp. The incumbent is guided by blueprints, schematics, sketches, bulletins, overhaul manuals, and local engineering instructions. May direct or work with one or more mechanics, apprentices, helpers, or enlisted trainees. May be required to work with and provide technical assistance to employees of lesser skills.

C. Physical Effort: May be required to lift parts and subassemblies weighting up to 40 pounds and to move them for distances up to 10 feet. Hoists, dollies, handtrucks, and/or other workers are available when heavier weights are encountered. Work pace is not rapid for long periods of time and heavy exertion is infrequent. Work requires standing, stooping, kneeling, crouching, lying, bending, slight climbing, sitting for short periods, pushing, pulling, lifting, and assuming strained awkward positions.

D. Working Conditions: Normally works in a well lighted, heated, and ventilated shop, but occasionally is required to work out of doors. Is exposed to containerized high pressure gases and liquified gases such as liquid oxygen (LOX). Is subject to eye injuries, foot injuries, strains, cuts, bruises, and industrial noise.

EVALUATION

Appropriate Title, Series, and Cross Reference Standards

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Aircraft Oxygen Equipment Repairer, 8201; and the Office of Personnel Management Standard for Pneudraulic Systems Mechanic Series, 8255, is the most nearly related to this occupation for job grading purposes.

Analysis and Findings

WG-9 Pneudraulic System Mechanic disassemble, repair, rebuild, test, and troubleshoot pneudraulic and hydraulic components, subsystems, or systems such as transfer pumps, transmission pumps, landing gear, and landing gear control valves, etc. The complexity, kind and variety of this equipment can be compared to the equipment involved in this job. Further, grade 9 mechanics are proficient in independent diagnosis and repair and have the skill to disassemble equipment and components and to select the proper replacement parts, all of which are requirements of this job. Responsibility, Physical Effort, and Working Conditions required in this job are essentially the same as those in the WG-9 criteria for Pneudraulic Systems Mechanic. Accordingly, the proper grade of this job is WG-9, and it is properly classified as Aircraft Oxygen Equipment Repairer, WG-8201-09.

TYPICAL JOB DESCRIPTION

FOR

SMALL ENGINE REPAIRER, WG-8610-08

I. GENERAL

Troubleshoots, overhauls, services, and sharpens power rotary and reel lawn mowers, riding mowers, and small gasoline engines. May incidentally repair other related equipment such as hand push lawn mowers.

II. TYPICAL WORK PERFORMED

Inspects, cleans, fuels, oils, and lubricates mowers. Removes and replaces or reconditions parts as necessary and adjusts and times engine components. Makes repairs involving ignition system, generator, carburetor, magnet, flywheel, wiring, throttle control, starter, fuel lines, and lubrication systems within engines. Services and repairs mower chassis. Replaces axles and hubs, broken or damaged structural and mechanical parts, and otherwise maintains mowers in good operating condition. Sharpens and straightens all mower blades.

Repairs outboard motors and other small engines.

Dispatches mowers and maintains custody, parts, and repair records.

Prepares condition reports on riding mowers.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a knowledge of the operating principles of small gasoline engines and be able to read specifications, diagrams and sketches pertaining to the equipment worked on. Must be able to use decimal measuring systems, make arithmetic calculations, and use simple equations. Must be able to determine if parts should be replaced or whether they can be cleaned or reconditioned and reused. Must be able to use common hand tools and power tools such as grinders and drills. Must know how to use a variety of test and measurement equipment such as feeler gages, timing lights, micrometers, tachometers, calipers, ammeters, voltmeters, etc. Must be able to work to close tolerances.

B. Responsibility: Receives oral and written instructions from the shop supervisor on new equipment, special priorities, etc. Otherwise, plans the sequence of work on a day-to-day basis, performs preventive maintenance and pre-repair inspection of equipment, determines preventive maintenance schedules from manufacturers instructions and in consultation with the supervisor, and determines extent of repairs required. Keeps supervisor advised of parts and materials needed and keeps custody records to account for equipment. Work is spot checked for compliance with instructions, neatness, and general workmanship. Work is reviewed overall from the standpoint of results achieved.

C. Physical Effort: Frequently lifts and carries objects weighing up to 40 pounds. The job requires frequent kneeling, crouching, stooping, and working in tiring and awkward positions.

D. Working Conditions: Work is usually performed inside in a well-lighted and ventilated area. The incumbent is exposed to moving parts, machinery, and sharp edges with the possibility of cuts and bruises. Grease, dirt, dampness, and gasoline fumes are frequently encountered. Work may also be performed out of doors in hot or cold weather.

EVALUATION

Appropriate Title, Series, and Cross Reference Standard

The appropriate title and series allocation for jobs whose characteristics match this typical job description is Small Engine Repairer, WG-8610; and the Office of Personnel Management Standard for Automotive Mechanic, WG-5823 is the most nearly applicable standard to this occupation for job grading purposes.

Analysis and Findings

The primary knowledge and skills required in the job for small engine repair work compare with those at the WG-8 worker level of the Automotive Mechanic Standard. At this grade, automotive workers must have a knowledge of where and how a variety of components, accessories, and parts of systems are installed they must be able to determine when parts should be cleaned and reinstalled or replaced; they require skill in removing and replacing engine parts and in making tune-up type adjustments and settings. They must be able to use common hand tools and a variety of test equipment such as feeler gauges, circuit testers, timing lights and dwell meters. Such knowledges and skills are similar to those in the job. Responsibility, Physical Effort, and Working Conditions required in the job are essentially the same as those in the WG-8 criteria for Automotive Worker. Accordingly, the proper grade of this job is WG-8 and it is properly classified as Small Engine Repairer, WG-8610-08.

Note: Jobs involving repair of outboard motors are also classifiable as Small Engine Repairer. When there is responsibility for the complete range of work at a location such as a marina repair shop, grade WG-8 would be warranted. WG-8 Repairers at such a location independently locate and correct problems; disassemble engines; clean parts; repair or replace crankshafts, pistons, rods, bearings, seals, and gaskets; reassemble and check engines, clean and replace points, plugs, condensors, etc.; and perform other necessary repairs of like difficulty and scope. They may also overhaul and repair jet skis and other small engine items found in marinas.

APPENDIX C

PRODUCTION FACILITATING PAY PLAN

The Department of Defense (DOD) directed a Navy-wide consistency review of production facilitating jobs in 1980. At the time there were roughly 6900 jobs classified in the WD/WN pay plan in DON. While DON classified their production planning jobs to the WD/WN pay plan, Army and Air Force classified their production planning jobs to the General Schedule(GS).

Three basic requirements were developed that a given job had to meet before it could be included in the Production Facilitating (PF) Pay Plan: (1) the career progression was exclusively from the trades; (2) the job required journey level trade knowledges; and (3) the job substantially matched one of Key Level Definitions(KLD's).

Production Environments:

Aircraft Examiners (AE) and **Ship Surveyors (SS)** were the least misused ratings. About two-thirds of **Ship Schedulers** primarily found in shipyards were misclassified or misassigned. Most of the **Shop Planners** primarily found at weapon stations failed to meet two of the three conditions for inclusion in the Pay Plan: journey level trade knowledges were not used and jobs did not match the KLD. (The KLD clearly indicates that shop planners are public works types, not production types.)

The continued use of all other classification ratings traditionally found in production environments was substantiated. While all employees had access to a variety of engineering performance standards or other guidelines, most were required to use journey level trade knowledges in applying and extending them to cover specific situations. Examples of such work included adapting material and equipment to special use; producing and repairing experimental or prototype equipment; determining depth of damage resulting from corrosion, metal fatigue, and stress; and working with avionics where few performance standards have been developed.

Nevertheless, in all these classification ratings significant conversions to the General Schedule were found necessary. The following is a listing of the ratings and the percentage of jobs requiring conversion to GS: Planner & Estimator-29%; Production Shop Planner-10% GS and 20% WG; Assistant Production Shop Planner-50%; Ship Progressman-25%; and Progressman-50%.

Public Works (PW) Environment:

Only three classifications are designed for use in this setting: Planner & Estimator(P&E), Maintenance Scheduler (MS), and Shop Planner (SP). Maintenance scheduling and shop planning within DON were found to have evolved to the point that journey level trade knowledges were no longer required. Accordingly, **MS** and **SP** jobs were phased out in DON.

82% of the **P&E** jobs were accurately classified. Using specific trades knowledges in the majority of cases, these P&Es received customer's requests for work; visited job sites; prepared the job orders describing the material, trade skills, costs and manhours required; developed the sequencing sheets, etc. Sketches were prepared if needed. 18% of the P&E jobs that did not belong in the Pay Plan either did not match the KLD or did not require full trade knowledge. Typical duties matched the KLD but the planning elements, particularly material costs and manhours, of the specific work projects assigned were covered so extensively by

engineering performance standards (EPS), trade books, and other guides that there was no necessity for application of trade knowledges.

In 1987 it was further determined that **P&E** positions were not supportable where the base maintenance operations are carried out under contract. It is questionable whether the first requirement for inclusion in the Pay Plan is met but the second and third requirements cannot be met using contractors. Journey level trades knowledge is not necessary for positions dependent upon contracted workforce. Using a contractor to provide maintenance services precludes PW employees from meeting the KLD since on-going planning & estimating work is being performed by the contract workforce.

Naval Air Depots:

Five types of jobs were found in this setting: Planner & Estimator (P&E), Progressman (PROG), Aircraft Examiner (AE), Maintenance Scheduler (MS), and Shop Planner (SP). Journey level knowledges were not a predominant requirement for **MS** and **SP** jobs and were phased out in DON. These jobs were classified as Production Controller, GS-1152 and Equipment Specialist, GS-1670 respectively.

20% of the **P&E** jobs and 44% of the **Prog** jobs required conversion to GS. Generally the **Prog** jobs did not expediate work, establish detailed work flow schedules, or review technical specifications in a manner that would require using journey level trade knowledges. **Prog** jobs supportable in the PF Pay Plan were involved in a variety of production line operations ranging from engine to airframe overhaul and repair work. Journey level trade knowledges in a specific trade, unlike the misclassified jobs, were used to review technical specifications to determine if installations were proper, if parts could be substituted, if deviations from basic work protocol were possible, and if tolerances were within permissable limits. The converted **P&E** jobs were classified as Equipment Specialist, GS-1670. **AE** jobs were correctly classified to the Pay Plan.

Naval/Marcorps Air Stations:

Three types of jobs were found in this setting: Planner & Estimator (P&E), Maintenance Scheduler (MS), and Shop Planner (SP). Journey level knowledges were not a predominant requirement for **MS** and **SP** jobs and were classified as Production Controllers, GS-1152 and Equipment Specialist, GS-1670, respectively. 17% of the **P&E** jobs were converted to GS. In these jobs, the engineering performance standards were quite thorough. Furthermore, the general nature of the work in these jobs (i.e. storm drain, street, roadway repairs) was less complex, thereby not requiring the full range of trade knowledges. In fact, most of the planning and estimating work was done in trades in which the incumbent had no journey level experience.

Laboratories:

Four types of jobs were found in this setting: Planner & Estimator (P&E), Production Shop Planner (PSP), Progressman (PROG), and Shop Planner (SP). The P&E, PSP, and Prog were found in the Industrial Department and the P&E, and SP were found in the Public Works (PW) Department.

The majority of **P&E** jobs were located in the PW Depts. Half were oriented around one specific trade, could use Engineering Performance

Standards to cover only a portion of the work to be planned, and required the planner to visualize the work to be done on a step by step basis in order to cover all aspects of the tasks involved. Jobs involving these duties were supportable in the PF Pay Plan.

The **Prog** and **SP** positions failed to sustain their PF classification due to inadequate application of trade knowledge. The **Prog** primarily scheduled and monitored job order via a computer tracking system, as opposed to any direct involvement in the actual job operation. The **SPs** were primarily involved with material procurement and expediting. Some trade knowledges were necessary, but less than a full journey level was needed to perform the assignments.

The **PSP**s were responsible for preparing job orders outlining the necessary steps and preparing estimates on research models to be developed for engineering/scientific purposes. Because of the originality associated with each product, guides such as engineering performance standards were not applicable. Jobs involving these duties were supportable in the PF Pay Plan.

Marine Corps Logistics Base:

Five types of jobs were found in this setting: Planner & Estimator (P&E), Production Shop Planner (PSP), Assistant Production Shop Planner (APSP), Maintenance Schedulers (MS), and Shop Planner (SP). The **P&E** and **Prog** jobs oriented around a specific trade matched the KLD and did require the use of journey level trade knowledges.

Half of the **APSP**s were found to match the KLD but were using subjourney level trade knowledges; therefore, could not be included in the PF pay plan. Typical duties included reviewing work requests, examining vehicles identified for work, determining manhours and equipment required, initiating procurement requests, and progressing work primarily for WG-8 automotive servicing type work. Journey level knowledges were not a predominant requirement for the **MS** and **SP** jobs and were phased out in DON.

Shipyards:

Six types of PF jobs were found in this setting: Planner & Estimator (P&E), Ship Scheduler (SCHD), Ship Progressman (SHIP PROG), Production Shop Planner (PSP), Shop Planner (SP), and Maintenance Scheduler (MS).

The majority of **P&Es** were supportable. 50% of the **PSP**s were validly classified within the Pay Plan. Those jobs that warranted retention as PF positions performed the general range of functions associated with PSPs; the application of their journey level trade knowledges to those duties granted them more insight into the requirements of each phase of the work accomplished by the shops, thus expediting the flow and progress of work. Those positions not warranting classification in the Pay Plan were those that concentrated solely on the material requirements associated with job orders. These positions neither required full trade knowledges in exercising the material responsibilities nor performed enough of the other duties associated with PSPs. They were more appropriately classified as Material Expediters, WG-6910.

Inconsistent use of trade knowledges by **SHIP SCHDs** in scheduling responsibilities suggested 75% of these positions operated outside of

the pay plan. 75% of **SHIPPROGs** utilized journey level trade knowledge in recognizing and resolving production problems and in determining the critical phases of the process; thereby, validating the use of this PF category.

MS positions did not utilize trades knowledges. The scheduling duties involved administrative skills rather than trades insight. Positions were more appropriately classified in the General Schedule. **SPs** positions were found performing General Schedule duties and not exercising journey level knowledges. Typical duties included preparing a monthly billing report, ordering and coordinating parts and materials, checking the completeness of material lists, and making decisions on material substitutions.

Supervisor of Shipbuilding, Conversion and Repair:

There are two basic type of SUPSHIPs: new construction, and conversion and repair. Activities primarily involved with new construction generally do not use PF employees. They rely upon production controllers, industrial specialists, engineers, and quality assurance employees. Detailed work specifications were usually generated by the contractor. Production controllers reviewed those specifications and quality assurance specialists monitored contractor construction performance.

Overhaul and repair (O&R) activities rely upon engineers and industrial specialists for some functions, Planner & Estimators (P&E) and Ship Surveyors (SS) are used in addition to production controllers and in lieu of quality assurance types. Some O&R rely solely upon Ship Surveyors while others use a combination of P&Es, SSs, and Ship Schedulers. P&Es and SSs visited the work site, inspected and determined actual repairs needed, developed specifications, produced detailed work requirements, established production estimates, and monitored contractor performance. While reviewing and monitoring contractor performance were not found to require journey level trade knowledges, inspecting and developing specifications were found requiring them.

All **P&E** jobs were found matching the KLD and requiring journey level trade knowledges. Their duties involved making on-site inspections, determining what repairs were needed, developing work specifications for items requiring repairs, preparing manpower and material costs estimates, sequencing work operations, and identifying appropriate technical manuals.

Ship Schedulers were found to be more appropriately classified as Production Controller, GS-1152. Their duties of preparing preliminary schedules (prior to awarding the contract), and making progress checks to insure contractor adherence to the work did not require journey level trade knowledges.

Ship Surveyors jobs were found requiring journey level trade knowledges and properly classified to the PF Pay Plan. The primary purpose of these jobs were twofold: insure contractor adherence to the contract specifications and develop change orders. To perform these functions, the ship surveyors reviewed contractor reports, evaluated contractor recommendations on additional work requirements, inspected work at critical events, and witnessed tests. In the development of change and supplemental orders, the ship surveyor developed specifications and estimates for manpower and materials.

Naval Weapons Stations:

Three types of PF jobs were found in this setting: Planner & Estimator (P&E), Shop Planner (SP), Material Scheduler (MS). Journey level trade knowledges were not a predominant requirement for **SP** and **MS** jobs were phased out in DON.

30% of the P&E jobs required conversion to GS or to subjourney level WG jobs. While there was some planning and estimating involved in these jobs, the type of equipment involved (railroad tracks, activity roads, drill presses, lathes, etc.), the highly standardized nature of the work, and the general inspection duties of these positions excluded them from the PF Pay Plan. Incumbents of valid P&E jobs were responsible for designated trades, prepared material and manpower estimates, developed material lists, identified specific job processes, visited job sites and prepared detailed job orders. While engineering performance standards, price standard books and other guidance were often available, they were not complete. Trade knowledges were required to fill the “gaps” in those standards and to insure that newer requirements were compatible with existing equipment.

APPENDIX D: SUPPLEMENTARY JOB GRADING GUIDANCE FOR INSPECTORS(WG)

I. GENERAL

This appendix provides job grading guidance on non-supervisory inspector jobs. Activities may evaluate and establish inspector jobs locally in accordance with the OPM Inspector Job Grading Standard; however, the guidance in the paragraphs below and in the Typical Job Descriptions within this appendix can be followed when applicable to the specific situations described.

II. COVERAGE

A. March 1983 revisions in General Schedule classification standards pertaining to quality control and inspection occupations have clearly altered the pay category treatment of positions involved in the acceptance or rejection of the product of trades, crafts, or manual labor work through inspection processes. In order to be graded under the Federal Wage System, such positions must, as before, require trades, crafts, or manual labor occupation knowledge and experience as the paramount requirement. Now, however, this requirement is normally satisfied by the performance of product inspection work per se. In the Explanatory Memorandum for the Quality Assurance Series, GS-l9lO it is stated:

"The principal classification issue is the proper pay category for inspection work. This issue, along with our findings that the paramount knowledge and skills applied in the work relate to the trades, craft, or laboring occupations, was discussed in the transmittal of the draft standards. The comments received support these findings insofar as product inspection work is concerned. Where there was disagreement, the issue involves work that may be appropriate to other wage grade categories which do not require trade knowledge and skills in the sense of journey level skills in an apprenticeable trade. Nonetheless the work is characteristic of trades, crafts, or laboring occupations and is excluded from coverage under the General Schedule."

B. It is still necessary, of course, to determine whether or not the inspection work constitutes the primary duty and it may sometimes be necessary to determine if there are requirements such as engineering technician knowledges, that are paramount. It is apparent, however, that OPM intended product inspection, as such, to be a trade or craft work process.

C. Jobs which are excluded from coverage under the Inspector standard because they do not involve the inspection of materials, products, or services, do not necessarily warrant allocation to the General Schedule. This point is illustrated by the Material Sorter and Classifier, 6912 and Testing Equipment Operator, 5439 Occupations.

III. GRADING PLAN

A. In using the Grade Determination Chart on page 9 of the standard, it should be noted that there is no provision for adding or subtracting grades when levels or degrees of the various factors are borderline. For example, when Factor I, Situation, is evaluated between B and C, an additional grade should not be added, even though the result is 3 grades less than the grade that would have resulted had the job clearly met Situation C.

B. Under Factor II, Level 3 responsibility is credited when the inspector works within broad program objectives, making decisions which involve deviations from past precedents or highly subjective judgements. He works independently, usually

at a worksite where a supervisor is not readily available, for example, at a private contractor's plant. Unless such a degree of independent responsibility is demonstrated, an Inspector position cannot be credited with Level 3 for Factor II. In some instances, this determination can only be made by a review of the total job. This is illustrated in Example Job Description (EJD) Nos. 9 and 10 in the Inspector standard. Despite the different occupational specialities, the two jobs are comparable in terms of relative skill and knowledge requirements. Both jobs are systems oriented and both fall in Situation C. The essential difference between the two lies in their relative responsibilities. Aside from the responsibility statements in the EJDs themselves, the only clear indication why EJD No. 10 is Level 3 vice Level 2 for EJD No. 9 is the paragraph in the skills and knowledges section dealing with inspections of work performed by private contractors. This is the key point of difference between the two jobs which led to, and warranted, the Level 3 determination for EJD No. 10.

C. Another key point is illustrated by EJD Nos. 9 and 10. Both jobs are assigned to Situation C under Factor I, and both are credited with Degree B skill and knowledge under Factor III. The difference in relative responsibilities, as discussed in paragraph III B above, is the basis for WG-13 and WG-14 level classifications for EJD Nos. 9 and 10, respectively. If the relative responsibilities were the same, e.g. Level 2, and the other factors remained unchanged, the resulting classifications would be at the same grade level, WG-13, even though the base trades are characteristically one grade apart.

D. Local activity Inspector jobs involving work similar to that described in an OPM Example JD (included in the OPM Inspector standard) or a Navy Typical Job Description should be classified at a different level only when a substantial difference is demonstrated between the local job and the Example/Typica1 JD. This is not to say, however, that all Inspector jobs in a single occupation will be classified the same, for example:

1. Typical Job Descriptions provide for WG-10 and WG-11 level Automotive Repair Inspectors.

2. The Typical Job Description for Munitions Inspector is properly graded at WG-9, but Munitions Inspectors who perform repetitive inspections on a limited variety of explosives and/or ordnance components would warrant grading at a lower level.

E. After nonsupervisory Inspector jobs have been evaluated, the Job Grading Standard for Supervisors is applied to the supervisory Inspector positions in the same manner as it is applied to other WS positions.

IV. TITLES AND CODES

A. Titling and coding guides are found in the Inspector standard and Part I of the Introduction to the Federal Wage System Job Grading System. Under the FWS, jobs are classified in the occupation determined most representative of the skill and knowledge requirements of the job; for example, a Piping System Inspector is assigned the occupational code of a Pipefitter, WG-4204. Other Inspector jobs will be assigned to the “01" series of the appropriate occupational family, with a title which is descriptive of the work performed. For internal Navy use, a parenthetical designator may be used to delineate one system's job from another in the same basic occupation, e.g., Electrical Systems Inspector (Ships) or Electrical Systems Inspector (Public Works).

B. As an exception to the general rule that titles and codes in Typical Job Descriptions must be followed unless superseded by OPM Standards issuances, titles and codes of Inspector jobs may be constructed locally. However, titling and coding practices in the Typical Job Descriptions in this appendix should be carefully considered for the sake of uniformity unless a more appropriate title or code is warranted by the local situation.

V. CODE STRUCTURE INDEX OF INSPECTOR JOB GRADING GUIDANCE

Code and Grade	Title	Evaluation
WG-2604-12	Electronic Systems Inspector (Ordnance)	C2A
WG-2604-12	Electronic Systems Inspector (Aircraft)	C2A
WG-2604-13	Electronic Systems Inspector	C2B
WG-2604-13	Electronic Missile Systems Inspector	C2B
WG-2805-11	Electrical Systems Inspector (Public Works)	B2C
WG-2805-13	Electrical Systems Inspector (Ships)	C2B
WG-2810-11	High Voltage Electrical Inspector	B2C
WG-2854-08	Electrical Equipment Inspector	B1A
WG-2854-11	Electrical Equipment Inspector	B2C
WG-3401-10	Gages Inspector	B2B
WG-3401-12	Measuring Tools and Gages Inspector	C2A
WG-3414-11	Machined Parts Inspector	B2C
WG-3416-14	Toolmaking Inspector	C2C
WG-4204-11	Piping Systems Inspector (Public Works)	B2C
WG-4601-08	Lumber Inspector	A2C
WG-4701-11	Public Works Maintenance Inspector	B2C
WG-4749-10	Building Maintenance Inspector	B2B
WG-5334-13	Marine Machinery Inspector	C2B
WG-5350-11	Production Machinery Inspector	B2C
WG-5413-10	Fuel Distribution Systems Inspector	B2B
WG-5803-11	Heavy Mobile Equipment Repair Inspector	B2C
WG-5803-11	Heavy Mobile Equipment Repair Inspector	B2C
WG-5803-11	Heavy Mobile Equipment Repair Inspector	B2C
WG-5823-10	Automotive Repair Inspector	B2B
WG-5823-11	Automotive Repair Inspector	B2C
WG-6502-09	Munitions Inspector	B2A
WG-6641-11	Ordnance Equipment Inspector	B2C
WG-6641-12	Guided Missile Inspector	C2A
WG-6901-07	General Equipment Inspector	A2B
WG-7002-08	Packing Inspector	A2C
WG-7002-08	Packing Inspector	A2C

INSPECTOR
WG-2604-12

TYPICAL JOB DESCRIPTION

FOR

ELECTRONIC SYSTEMS INSPECTOR (ORDNANCE), WG-2604-12

I. GENERAL

Performs inspections of electronic ordnance parts, sub-assemblies, instruments, systems and associated components of mines, torpedoes, depth charges, destructors, and missiles.

II. TYPICAL WORK PERFORMED

Performs specialized inspections and tests on highly sophisticated and complex electronic ordnance piece parts, sub-assemblies, instruments, and complete electronic systems for accuracy of various mechanical, electrical and electronic measurements, performance characteristics, etc., as outlined in ordnance publications, contract specifications, Standard Inspection Procedures, specifications, blueprints, wiring diagrams, etc.

Tests, calibrates, measures, diagnoses and records the operational and functional characteristics and the adequacy of electronic devices using specially designed, complex precision test instruments and standard electronic and electrical test equipment.

Traces and troubleshoots defective electronic equipment in order to provide adequate reports of inspections and tests. Inspects mechanical parts and equipment for such characteristics as concentricity, proper installation of parts, corrosion, imperfections, wear, workmanship, and conformance to specifications, in-process inspections, fleet return, and inspections performed by electronics mechanics and others.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Uses special highly sophisticated and complex precision and standard electronic and/or electrical test sets or equipment for testing, calibration, measuring, evaluating, diagnosing, and/or recording the operational and functional characteristics and the adequacy of electronic devices, electronic sub-assemblies or main assemblies, test sets, and/or test equipment and associated components or mine, torpedo, depth charge, destructors, and missiles.

Uses various types of complex electronic test equipment such as oscilloscopes, R-F signal generators ranging from 60 Hz to lGHz, electronic frequency counters, electronic digital voltmeters, megohm bridges, vacuum tube volt meters, specialized recorders and recorder amplifiers, impedance bridge, micro-volt meters, micro-ammeters, milliammeters, precision power supplies, potentiometers, Wheatstone bridge, Kelvin bridges, unique and specially designed precision instruments, etc.

The incumbent must be thoroughly qualified in electronic circuits such that he/she can trace and troubleshoot defective equipment and electronic piece parts such as resistors, transistors, silicon controlled rectifiers, field effect transistors, transistors, capacitors, light emitting diodes, diodes, integrated circuits vacuum tubes, etc. in order to adequately report the results of his inspection and test.

Incumbent may also inspect mechanical piece parts or equipment for dimensional requirements, concentricity, proper installation of parts, corrosion, imperfections, wear and workmanship according to publications specifications and drawings.

The incumbent should have a thorough understanding and knowledge in the use of blueprints, ordnance specifications, ordnance pamphlets, engineering sketches, and electronic circuit diagrams. Should be capable of applying shop mathematics and electronic theory such that he/she can select and adapt the necessary test equipment, and to select test equipment having the appropriate range and tolerance for conducting tests.

Is required to have a thorough knowledge and skill in the use of complex electronic equipment and instruments, calibration equipment, and special measuring equipment, such as: oscilloscopes, signal generators, digital electronic counters, etc., and applicable WEP Test Sets.

When inspecting work performed by private contractors, uses knowledge of specifications, technical manuals and knowledge of pertinent sections of the contract unique to electronic inspection. Acts as a formal safety observer making pertinent reports of unsafe acts or conditions.

B. Responsibility: The supervisor provides a brief outline of priorities, work sequences, and pertinent policy matters. The employee independently performs the assignment. Completed work is reviewed for adherence to inspection policy and to assure that broad objectives have been achieved. The inspector recognizes the need for departure from past precedents and accepted practices and provides technical assistance to higher authority in the resolution of problems involving waivers and deviations. Instructions and guides are usually available but are complicated, require careful interpretation, and may involve modification in their application to specific work assignments.

C. Physical Effort: Works while sitting walking, and standing. Occasionally may be exposed to moving hoists and cranes. Normally will lift from several ounces to thirty pounds. Requires good vision and hearing with or without aids. Must be able to distinguish colors.

D. Working Conditions: Considered ideal, inside temperature humidity controlled. Occasionally will work in warehouses, storage rooms or other working space under prevailing weather conditions.

EVALUATION

FACTOR I - Situation C
FACTOR II - Level 2
FACTOR III - Degree A
CONCLUSION - WG-12

INSPECTOR
WG-2604-12

TYPICAL JOB DESCRIPTION

FOR

ELECTRONIC SYSTEMS INSPECTOR (AIRCRAFT), WG-2604-12

I. GENERAL

The incumbent inspects a wide variety of electronic communication and navigation systems such as VOR, TACAN, UHF, and power distribution for the electronic equipment. The work is performed on all assigned aircraft and in support of transient aircraft.

II. TYPICAL WORK PERFORMED

Inspects aircraft for quality and correctness of work performed by check crew and electronics shop personnel. Insures that all repairs and components are properly installed, connected and secured and that systems repaired function as prescribed by criteria in appropriate manuals and instructions.

Incumbent must be able to give needed assistance in his specialty to the appropriate shops in troubleshooting difficult discrepancies on a wide variety of aircraft and systems. This requires use of various test equipment, such as multimeters, line testers, and meggers, etc. Also must ground operate the various systems to insure proper operation of all aircraft electronic systems.

Incumbent must be able to read and accurately interpret wiring diagrams and schematics, train and test qualified collateral duty inspectors, maintain liaison with other activities to properly coordinate the overall maintenance, whether it be in the incumbents area of responsibility or not.

The incumbent will be required to perform other miscellaneous tasks as may arise; i.e., cleaning assigned working spaces, filing reports, making changes to technical publications and inspecting a wide variety of aircraft systems and components to insure quality and correctness of workmanship of other interrelated systems as well as those of the incumbent.

In addition, the incumbent will be required to assume collateral duties required of the Quality Assurance Branch, as outlined in instructions and directives; i.e., safety, FOD calibration and qualification of test equipment and tools. The incumbent will be responsible for the review of incoming directives, reports, messages, to determine the applicability to the maintenance effort in AOMD.

In addition, the incumbent will be required to prepare and formulate maintenance instructions, UR's, TIMI's and other reports, directives, and messages, as required. The incumbent will be required to periodically check qualifications of designated CDI personnel, cause to be inspected all equipment received for use, including GSE and precision measuring equipment. The incumbent will be required to review maintenance forms for recurring discrepancies to provide the means for developing a trend analysis for ascending or unnecessary discrepancies requiring special attention or action. Insure standard established practices and procedures are observed for conducting ground tests pre/post flight and daily inspections. Brief pilots and crew prior to test flights so that objectives and criteria are clearly understood.

III. FACTOR STATEMENTS

A. Skills and Knowledge: Incumbent must be thoroughly familiar with a wide variety of electronic equipment and systems operations; e.g., VOR, VHF, UHF, TACAN, and AC and DC operated systems as well as high powered communication systems, etc. Must possess a high degree of knowledge of electrical and electronic theory, principles, application and operations. Also must be able to intelligently read and interpret wiring schematic diagrams and electronic equipment schematic diagrams, to use these diagrams in the troubleshooting of discrepancies. The incumbent must have the knowledge and skill to effectively and efficiently troubleshoot, repair and replace defective items and components of aircraft systems, in accordance with established published standards criteria and specifications. The incumbent further must have a good working knowledge of the power plants, airframe and electrical systems of the aircraft so as to intelligently be able to determine if the aircraft is ready for flight test. Must be familiar with service publications and their use as a tool in effecting proper repairs.

B. Responsibility: Incumbent works under the general supervision of the Quality Assurance Chief Petty Officer, who will assign the required tasks by oral or written request. Also aids in the determining of type and extent of repairs needed and at what maintenance level such repairs should be completed. Work requires that the incumbent insure that all repairs and components are properly installed, connected and secured and that the systems repaired function as prescribed criteria in appropriate manuals and instructions.

The incumbent is responsible for insuring proper replacement parts are used in accordance with existing technical manuals, bulletins and directives. The incumbent insures proper corrective action for maintenance functions, also provides technical assistance as required by any shop within the organization.

Spot checks collateral duty inspectors for compliance with safety and proper inspection procedures. The incumbent aids in the overall safety and effectiveness of the maintenance effort and maintains liaison with appropriate contractors, NAVAIRSYSCOM Representatives and other available technical services. The incumbent determines qualifications for collateral duty inspectors, plane captains and flight crew personnel, as directed in appropriate instructions, directives and messages.

C. Physical Effort: Work assignments involve use of test stands, step ladders and other devices, as required, which involve climbing, stooping, bending and kneeling in cramped and awkward positions on and in aircraft. Work usually involves handling equipment weighing from 20 to 100 pounds.

D. Working Conditions: Work is accomplished inside as well as outside the hangar area. Work areas are drafty, noisy, hot, or cold depending on season of year and fumes of exhausts and fuels are usually present. Occasionally, work may be accomplished in bad weather. There is the possibility of cuts, burns, shocks, strains, and broken bones. Aircraft usually are greasy and oily in engine areas. Incumbent will be required to work on a rotational shift due to 24-hour-day, seven-day-week operations.

EVALUATION

FACTOR I - Situation C
FACTOR II - Level 2

FACTOR III - Degree A
CONCLUSION - WG-12

TYPICAL JOB DESCRIPTION

FOR

ELECTRONIC SYSTEMS INSPECTOR, WG-2604-13

I. GENERAL

Inspects and tests electronic devices and electronic systems fabricated by highly skilled journey level mechanics for use in military aircraft, missiles and naval vessels. Determines compliance with specifications and other documentation as well as sound fabrication and electronic packaging practices.

II. TYPICAL WORK PERFORMED

Performs inspections and tests on design, prototype and pilot production models supplied by contractors such as aircraft and shipboard communication, telemetry, navigation, radar, and countermeasures equipment and systems during fabrication and evaluation.

Selects, adapts and develops test methods used in the test and evaluation of devices and equipment including those having critical performance requirements and characteristics. Troubleshoots test methods and uses a wide variety of test and measuring equipment such as oscilloscopes, signal generators, spectrum analyzers, harmonic wave analyzers, all types of voltage frequency meters and a wide variety of special and computer controlled electronic test sets.

Interprets results of inspections and tests for conformance with specifications and acceptance criteria and determines acceptability of devices or systems. Instructs or assists inspectors of lower grades in making complex test and inspection setups.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a thorough knowledge of electronic theory and the performance characteristics of a wide variety of circuits such as oscillators, detectors, modulators, multivibrators, discriminators, rectifiers, amplifiers, antennas, logic circuitry, regulated power supplies, transmitters, receivers, mixers, digital and analog circuitry, etc. Must understand the uses, capabilities and limitations of a wide variety of test and measuring devices and be able to adapt or develop a wide variety of set ups and techniques for testing unique and complex electronic equipment. Must be able to judge and interpret standards of workmanship; must be able to understand and interpret specifications; and must have a sufficient understanding of fabrication, assembly and circuit packaging practices to assure that equipment will withstand simulated environmental and fleet service conditions. Must be able to pass qualification tests for specialized inspection requirements after minimum training periods. For example, must be able to pass qualification tests for soldering and wiring inspection after one week of specialized training.

B. Responsibility: The supervisor assigns work and provides general instructions on policy, deadlines, reporting requirements, etc. Incumbent must independently determine acceptability of devices or systems by selection of correct test methods and evaluation of equipment performance based on available criteria or

state-of-the-art functional and fabrication requirements. Specific acceptance and performance criteria is often not provided. Reports concerning nonconformities in purchased materials become the basis for contractual negotiation and/or litigation. Review of completed work is concerned with adequacy and conformance to desired objectives. Specifications and contractual requirements are complicated and require careful interpretation.

C. Physical Effort: Requires moderate physical exertion involving walking, sitting, standing, kneeling and bending. It is necessary to move or lift equipment without aid for distances up to a few feet and the maximum weight lifted will not exceed 75 pounds. The inspector must possess good color vision to differentiate color codes employed to identify wire and components used in electronic equipment. In addition, 20/20 vision (correction permissible) is essential for this classification of work. Must have good digital and manual dexterity to operate test equipment.

D. Working Conditions: The work is generally performed in well-lighted, heated and ventilated areas. The inspector is exposed to the usual moving objects found in an industrial plant such as moving equipment, cranes, etc., as well as energized electrical circuits (voltages as high as 25,000 volts), and sharp objects. May occasionally be required to perform duties at contractor's facilities, naval depots, or at either foreign or domestic fleet operational installations. In such circumstances, the inspector may be exposed to dock, shipboard, flight line and/or explosive hazards.

EVALUATION

FACTOR I - Situation C
FACTOR II - Level 2
FACTOR III - Degree B
CONCLUSION – WG-13

INSPECTOR
WG-2604-13

TYPICAL JOB DESCRIPTION

FOR

ELECTRONIC MISSILE SYSTEMS INSPECTOR, WG-2604-13

I. GENERAL

Tests, inspects, or witnesses tests and inspections of hydraulic, electronic, guidance and telemetry components and assemblies of various guided missiles and torpedoes. Items are either newly procured or are being overhauled, repaired, or modified at the intermediate or depot level. Assignments include Sidewinder, Sparrow, Terrier, Tales, Standard, ASROC, MK-46 and MK-44 (torpedo) and other missile or torpedo modules, components, sub-assemblies and systems.

II. TYPICAL WORK PERFORMED

Performs or witnesses all functional, operational, visual or dimensional inspections and test of electronic missile components, assemblies, systems and equipment, when they are received as newly procured items or when they are overhauled, reworked, modified or altered and are assembled into a complex serviceable guided missile. Examples of systems inspected include electronic flight control systems, precision electronic timing systems, guidance systems, telemetry systems, hydraulic systems, warhead, electronic fuzing assemblies, optical systems, and batteries.

Inspects or verifies the testing of electronic systems for sensitivity, frequency, wave form definitions. The missile flight control is tested for dynamic functional parameters including power consumption, input voltages values, polarities, and phasing amplification, roll stabilization, and flight control, mill adjustment, AC and DC gain functions, balance rate, signal response, linearity and limiting characteristics, proper digital to analog conversions, calibrations of output signals to telemetry, phase shift, frequency response, and proper performance during supply voltage variations. Test equipment used includes oscillographs, specialized recorder amplifiers, precision impedance bridge, specialized signal generating and metering test consoles, vacuum tube voltmeters, ohmmeters, meggers, etc.

Uses complex, special precision test equipment, and standard measuring instruments designed to test the function of missiles and their components. Performs data reduction, interprets, and evaluates the test results which are in the form of high speed graph recordings or oscilloscope displays, as well as tabular results.

Insures that test and assembly instructions such as the technical manuals, specifications, Standard Operating Procedures, Surface Missile Processing Documents, NAVAIR Manuals, Quality Assurance Test and Inspection Procedures, technical bulletins, ORDALTS, etc. are strictly adhered to during missile and torpedo or fire control testing or other phases of missile, torpedo or fire control production.

II. FACTOR STATEMENTS

A. Skill and Knowledge: When inspecting work performed by private contractors, uses knowledge of specifications and technical manuals and a knowledge of pertinent sections of the contract. Required to have a detailed knowledge of electronic theory, the ability to apply electronic mathematics in the analysis of tabular, graphical stabilization parameters, oscilloscope, and optical displays for such attributes as phase shift, decibel gains, attenuation factors, frequency characteristics, and band width measurements. Is required to read and interpret complex schematic diagrams, blueprints, sketches, specifications, waivers, deviations, and other associated technical literature. Is required to use and fully understand the extremely wide variety of precision specialized test equipment. Must have a detailed knowledge of the testing and functioning of the various configured missiles, torpedoes, and fire control equipment in order to locate and isolate problem areas and make GO/NO GO decisions. Must have a good working knowledge of quality assurance and inspection procedures that are unique to missiles, torpedoes, and fire control equipment and their associate components and equipment. Must know inspection reporting and certification of test set reporting procedures as applicable to the missile and torpedo program.

B. Responsibility: The supervisor provides a brief outline of priorities, work sequences, and pertinent policy matters. The employee independently performs the assignments. Completed work is reviewed for adherence to inspection policy and to assure that broad program objectives have been achieved. The inspector recognizes the need for departure from past precedents and accepted practices and provides technical assistance to higher authority in the resolution of problems involving waivers and deviations. Instructions and guides are highly complicated, require careful interpretation and may involve considerable modification in their application to their specific work assignments.

C. Physical Effort: Physical demands are normal including the use of limbs and fingers. Requires good vision and hearing with or without aids. Must be able to distinguish colors.

D. Working Conditions: Considered ideal, inside temperature, humidity controlled. Occasionally will work in areas under prevailing weather conditions.

EVALUATION

FACTOR I - Situation C
FACTOR II - Level 2
FACTOR III - Degree B
CONCLUSION – WG-13

INSPECTOR
WG-2805-11

TYPICAL JOB DESCRIPTION

FOR

ELECTRICAL SYSTEMS INSPECTOR (PUBLIC WORKS), WG-2805-11

I. GENERAL

This position is located in the Inspection Branch, Operations Division, Base Maintenance Department. The purpose of the position is to assist in the execution of the continuous inspection program by conducting inspections on all facilities, including utilities systems and installed equipment. Prepares inspection reports which show the physical condition of the facilities inspected. These reports are used to initiate work orders for repairs, for information, or preparation of the Annual Inspection Summary.

II. TYPICAL WORK PERFORMED

Performs a detail inspection on the electrical systems in all types of buildings, structures, and utilities systems which are to be entered into the system for maintenance and repair. These inspections are a visual and test inspection using voltmeters to check for proper voltage, ammeters to check the load on circuits, meggers to test resistance, recording voltmeters, recording ammeters to check voltage and amperage over a period of time, tachometers to check speed, dial indicators to check alignment and other related instruments. All deficiencies are recorded on the inspection report by description, location, quantity, and contain recommendations for making proper repairs using the most modern materials and techniques.

Performs control inspections on the electrical portion of all types of buildings, structures and utilities systems. The inspector makes an on-site examination of the building, structure, or system and lists all deficiencies which fall under the category of Backlog of Essential Maintenance. Enters a preliminary estimate of the cost of repairs of each facility inspected based upon previous estimates, personal knowledge of time and materials, with assistance from Planners and Estimators or Engineered Performance Standards.

Performs inspections as required by written work requests, providing information and a recommendation as to validity of the request, method of accomplishment, time of accomplishment, and information for preparing work authorization.

Performs housing check-out inspections as required and prepares report. Performs special inspections such as ammunition lightning protection systems grounding measurements, self-help and troop training work inspections, and final inspections for contract work. Reviews completed preventive maintenance check sheets for deficiencies which need to be corrected. Assists in reviewing contract plans and specifications for possible design deficiencies which could cause maintenance problems.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have journey level knowledge and skill in the electrical trade; must be familiar with related trades; be capable of reading blueprints, reading and preparing sketches, preparing written inspection reports

have a legible handwriting, good knowledge of arithmetic, English, spelling, and grammar. Must have a good knowledge of related Marine Corps and Base Orders and technical publications used in connection with inspection, estimating, safety, maintenance, and repair. Must be familiar with safety and fire regulations as they relate to the duties. Must know how to use electrical instruments such as the voltmeter, ammeter (recording and test), megger, dial indicator, tachometer, test light, measuring tapes and wheels.

B. Responsibility: The incumbent works under the immediate supervision of the Head of the Inspection Branch (Supervisory Maintenance Engineer, GS-11), who schedules the work for the Inspectors. Performs duties independently after receiving the schedule and instructions from the supervisor and is required to provide supervisor with timely, accurate, and complete inspection reports according to the inspection schedule, recommend improved procedures and materials and inform supervisor of all emergency situations located. Inspection reports are reviewed by the Branch Head. On some occasions, the Inspector is accompanied and assisted by the Branch Head.

C. Physical Effort: The duties require ability to walk, stoop, crawl, lift, climb ladders, walk on roofs, climb towers, drive vehicles, have good hearing, feeling, eyesight, and color vision.

D. Working Conditions: Must perform work both inside and outside, exposed to hazards equivalent to those of a journeyman mechanic in the structural, mechanical, and electrical fields. No extreme heat or cold is experienced. May work in damp humid areas under buildings.

EVALUATION

FACTOR I - Situation
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION - WG-11

INSPECTOR
WG-2805-13

TYPICAL JOB DESCRIPTION

FOR

ELECTRICAL SYSTEMS INSPECTOR (SHIPS), WG-2805-13

I. GENERAL

This position is that of a ships electrical systems inspector located in the Electrical Section, Structural and Electrical Branch, Non Nuclear Inspection Division, Quality Assurance Office.

II. TYPICAL WORK PERFORMED

Receives both specific and general assignments for inspection of surface ships and submarines electrical/electronic systems using highly sophisticated techniques. Plans, schedules and performs inspections and witnesses tests on electrical/electronic systems and associated components/equipment installed aboard naval vessels to determine compliance with specifications and quality level required. Also inspects and witnesses tests on system components and equipment being worked in various shops. When noncompliance with specifications is detected, the inspector can place production work in a hold status. Types of inspections performed include, but are not limited to, preliminary, in-process, pretest/final and witnessing of system tests. Examples and frequency of the aforementioned inspections that are conducted by the inspector are as follows:

a. A preliminary/prearrival inspection is a detailed inspection conducted to determine existing conditions (deficiencies/discrepancies) on the vessel. The results are used to aid planning in scoping a work package for the vessel. The inspection includes the majority of the ships electrical systems and components and is conducted from plans, experience, and the inspectors intimate knowledge of the systems without the benefit of instruments.

b. An in-process inspection is conducted at various checkpoints during the removal, disassembly, repair, assembly and installation of electrical/electronic systems and associated components/equipment. Timeliness and accuracy is required in these inspections to eliminate holdups, rework, and ensure specification conformance to critical installations, cleanliness, material level and identity, alignment, and completeness.

c. A pretest/final inspection is conducted after system/component installations are complete. Precise knowledge of the systems, applicable specifications and quality level is required. The hardware inspection includes a review of software to verify compliance and completeness of work. This is the last inspection prior to energizing/operating/testing the system. It must identify all items requiring correction prior to commencement of system tests to ensure tests will proceed without delay.

d. Shop and shipboard tests are witnessed by the inspector to verify and document component, equipment, and system conformance for satisfactory operational performance. For submarines, this constitutes final certification of ability to operate safely in the hostile underwater environment.

e. Types of electrical/electronic components, equipment and systems inspected during the preliminary, in-process, and pretest/final inspections number in the hundreds, but major systems include the following; ship's electrical power generation, switchboards and power control, internal communication, motor generators, radio and radar, sonar, steering and diving, fire control, motors and vital equipment control, and submarine pressure hull penetrations.

The more complex systems and equipment many of which require stringent inspections and complete Sub-Safe certification records are: electric power generation, power distribution and electric plant control, lighting distribution and control, ships service motor generator sets, 400 hertz generator systems, fire control, radar, sonar, IFF, electronic countermeasure (ECM), navigation, interior communications, teletype, radio, and radio equipment.

A typical example is inspection, certification, and documentation required for electrical and antenna hull fittings in the Sub-Safe Area of nuclear submarines. The inspector verifies and maintains reentry control for removal, makes visual inspection reports, certifies repairs, witnesses, documents reinstallation, and completes the reentry. There are approximately (20001 Sub-Safe Fittings for each overhaul to be documented, certified and audited for correct size, material, torquing, and markings. No error is permitted.

III. FACTOR STATEMENTS

A. Skill and Knowledge: The inspector must have a thorough technical knowledge of the electrical/electronic trade; an understanding of the theory and work processes for manufacture, repair installation, and operation of electrical/electronic systems and equipment; and of the interface systems, structural, piping, and mechanical. The ability to read and interpret correctly, complicated written technical material such as: instructions, job orders specifications, procedures, sketches, drawings, and blueprints.

The ability to determine overall inspection needs, quality checkpoints, and prepare procedures or checklists for quality control. A keen insight to make early determination of nonconforming or problem areas and communicating these observations to quality assurance supervision, production supervision, or others as required for effective resolution and quality control. A good facility of communication, both oral and written, and preparation of specific and precise memorandums or other written communications.

Flexibility and ability to quality inspect in other craft areas, inspecting structural, piping, or mechanical systems when required. A diverse knowledge and skill in use of mechanical, electrical, and electronic gauging and measuring instruments such as voltmeters, multimeters, ammeters, ohmeters, meggers, frequency meters, tachometers, oscilloscopes, surface comparitors, optical comparitors, torque gauges, and pressure gauges.

A knowledge of mathematics sufficient for onsite calculations to determine acceptability. A capability for making decisions of acceptance or rejection on complex systems or equipment. When required to perform inspections of work performed by private contractors (off base) interprets specifications, blueprints and contract requirements and makes final acceptance or rejection prior to payments to contractor. A capacity for further quality assurance and technical development through training.

B. Responsibility: The inspector works directly for the Supervisory Inspector (Ship's Electrical Systems) who provides general instructions as to the scope and requirements to be complied with. Instructions and procedures are usually available but the contents require careful interpretation by the inspector because of the complications that could result if not adhered to. Must perform duties with a minimum amount of supervision or technical assistance, and defend decisions, both orally and in writing. Makes acceptance and rejection decisions requiring careful interpretation of plans and specifications on a wide variety of complex problems. The decision made by the inspector on workmanship and/or materials could cause or prevent an incident of catastrophic proportions. Example: Failure or casualty in the electrical control of a submarine's steering and diving system or loss of interior communications, main and auxiliary electrical power system on a surface vessel may result in damage to equipment, injury/death of personnel and in the case of submarines, may result in loss of the boat. The inspector is also responsible for making production shop supervision aware of Quality Assurance procedures and requirements.

C. Physical Effort: Must have the physical ability to perform duties in areas reached by ascending or descending ladders, staging, etc. Must be able to perform inspections in confined spaces for prolonged periods of time in standing, stooping or crouching positions which would cause muscular effort or physical strains. The inspector must possess normal color sensitivity, muscular coordination, visual acuity, and be emotionally stable to make decisions in unusual situations

D. Working Conditions: Inspectors are required to work in areas of poor footing, high altitudes, around operating machinery and electrical/electronic equipment, radiation and contamination exposure. These areas may be within the confines of buildings, ships, or outside locations exposed to weather elements. Protective clothing and/or equipment may be required for personal protection from noxious fumes, contamination, dust, grease, and weather. Job commitments at times require travel to other facilities on very short notice, rotation of work shifts and extended working hours.

EVALUATION

FACTOR I - Situation C
FACTOR II - Level 2
FACTOR III - Degree B
CONCLUSION – WG-13

INSPECTOR
WG-2810-11

TYPICAL JOB DESCRIPTION

FOR

HIGH VOLTAGE ELECTRICAL INSPECTOR, WG-2810-11

I. GENERAL

Inspects, and performs and witnesses tests on electrical communication, power, and distribution systems, and components, installed underground and in buildings and other structures, to determine need for repairs and preventive maintenance; locates the source of faulty operation, and determines and recommends the nature and extent of repairs required.

II. TYPICAL WORK PERFORMED

Inspects, and performs and witnesses operational tests on electrical communication, power and distribution systems (overhead and underground) and components such as telephone, fire alarm, public address, inter-communication, and antenna systems; electric power generation equipment (turbines, motors or gas engines, generators, switch gear, converters, and transformers); and electric power and light distribution (substations, switchboards, switchgear, transformers, primary lines overhead transmission, manholes, duct lines, poles, steel towers, lightning arrestors, secondary transmission lines, insulators, vegetation interference, guys, markings, and overhead clearances) to verify that equipment systems and components are in good state of repair, and to detect existing and potential deficiencies. Makes follow-up inspections to determine whether or not work generated by initial inspection has been completed, bringing the facility up to standard specifications.

Determines cause of deficiency and most economical method of preventing recurrence; makes pertinent sketches; recommends repairs; determines when preventive maintenance work should be generated as a deterrent against any major impairment of facility utilization; and initiates corrective action before deficiencies become of major magnitude.

Prepares various Field Inspection Reports, indicating thereon the condition of each element or unit of facility or system inspected (by appropriate code); complete details of work which are required to correct any item found to be in an unsatisfactory condition; and preliminary estimate of number of manhours and cost of material required to accomplish required work. A field inspection report indicates work of an emergency nature, work that may be deferred and indicates relative importance of deficiencies. Furnishes a preliminary estimate with work centers involved in correcting the deficiencies.

Reviews the facility or system with a view towards energy conservation and makes specific recommendations that may or may not involve expenditure of funds. Reviews historical data of the facility or system and updates these records to show changes in construction, etc. Participates in the preparation of the Annual Inspection Summary (AIS) which covers all customer activities and is submitted to the Naval Facilities Engineering Command (NAVFAC). Involved in the preceding is the provision of information contained in the various field inspection reports. From this Annual Inspection Summary, customer activities will generate work resulting from receipt of maintenance funds.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must read blueprints and specifications, illustrate facility condition by sketches and diagrams. Use practical mathematics, and prepare preliminary estimates of manhours and cost of material required to accomplish work. Must know principles and methods of electrician trade. Must use initiative and good trades judgment in determining existing and potential deficiencies and their apparent cause; in recommending corrections; and in determining condition code, degree of urgency, effect if not completed, and estimated cost of repairs.

Uses such testing instruments as wire gauges, indicating wattmeters, vacuum tube tester, voltmeters, ohmmeters, meggers, and wheatstone, capacitance, and induction bridges in performing tests. Must be able to coordinate inspections in accordance with the mission and operations accomplished by the customer activity. Must be able to update the Real Property Inventory System records when inspecting a facility, based on familiarity with the computerized system used on a three year cycle. Must keep aware of new construction, acquisitions, demolitions, and changes in tenants for all customer activities.

B. Responsibility: Receives supervision from the Facilities Inspection Branch Manager, a Supervisory Planner and Estimator. Work is performed within the guidelines (oral and written) provided. Must adhere to established schedules in order that each unit or facility will be inspected at proper frequency. Must be thoroughly familiar with Inspection Guides and/or other available material as necessary to insure inspection of all critical elements.

Since the majority of maintenance work is generated by physical review, responsible for reporting the condition of all public works electrical facilities; accurately diagnosing electrical facilities' deficiencies; and realistically estimating the work required and cost thereof to maintain the systems facilities.

Written inspection reports are spot checked for completeness and clarity. Must prepare concise descriptions of work to be performed which will preclude revisiting the site in determining the final estimate or in preparing the job order, and will provide the cognizant shop sufficient information to permit prompt processing of the work. Review of the Inspector's work in the field is only made by the supervisor when the Inspector encounters a problem he cannot solve. Responsible for selecting and using proper guides such as Field Inspection Reports, Facility History Records, Inspection Guide, Maintenance and Operation Manuals, NAVFAC digests and miscellaneous.

C. Physical Demands: Work requires walking, kneeling, crouching, stooping, climbing of ladders, and at times performing inspections in awkward positions. Close attention of eyes is required in order to detect deficiencies, and analysis by ear is required in order to determine defective conditions.

D. Working Conditions: Work is done both indoors and outdoors, with about 25% of the time outdoors. Exposed to temperature extremes, dust, dirt, poor ventilation and dampness, poor lighting, etc. Hazards are those normally encountered in the electrician trade, including high voltage areas, high elevations, areas where injuries to eyes and limbs may occur, precarious footing, and threats to the respiratory functions of the body, etc. These situations could result in death, broken bones, cuts, bruises, shock, burns, and dizziness.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION - WG-11

INSPECTOR
WG-2854-08

TYPICAL JOB DESCRIPTION

FOR

ELECTRICAL EQUIPMENT INSPECTOR, WG-2854-08

I. GENERAL

Visually inspects and tests a wide variety of electrical or electronic parts and assemblies that have a variety of quality characteristics to determine correctness and completeness of assembly and to verify that such assemblies have been manufactured or repaired in accordance with prescribed requirements.

II. TYPICAL WORR PERFORMED

Inspects purchased or locally manufactured electrical or electronic parts and assemblies according to established inspection instructions and sampling plans. Such inspections include the examination of the part or assembly to determine that completion of assembly, finish, workmanship and minor dimensional requirements are in accordance with prescribed criteria. Inspection also includes the performance of electrical tests on component parts utilizing standard measuring devices such as ohmmeters, voltmeters, ammeters, frequency meters, Wheatstone Bridges, etc.

Operates automatic test equipment by; staging component or assembly, starting test sequence and observing results as indicated on printout, digital read-out, or meter devices. (Such equipment is programmed by supervisor or a higher rated inspector.]

III. FACTOR STATEMENTS

A. Skill and Knowledge: Incumbent must have the ability to read and use blueprints, wiring diagrams and specifications as well as apply and use a wide variety of standardized electrical test and measurement instruments. Also must make arithmetic computations, assemble and report inspection data and maintain control charts when required for a particular manufacturing process. A basic knowledge of electrical theory and electrical measuring devices is essential.

Incumbent is required, after one (1) week of specialized inspector soldering and wiring training to pass qualification tests required for inspector certification. Must demonstrate continued proficiency in soldering and wiring inspection technology by passing certification tests at intervals and under special conditions as prescribed by NAFI Quality Standard QIS 23.10.

Incumbent may be required, after three (3) weeks of specialized inspector resistance welding training to pass qualification tests, required for inspector certification. Must demonstrate continued proficiency in resistance welding inspection technology by passing recertification tests at intervals and under special conditions as prescribed by NAFI Quality Standard QIS 23.20.

B. Responsibility: Works under the close direction of a higher rated employee or the supervisor. Is responsible for acceptance and rejection of material inspected in accordance with specific specifications and inspection procedures. Refers all doubtful cases to the supervisor. Accepted items do not require

additional inspection; however, they are subject to review by supervisor. Instructions and inspection procedures are provided both orally and in writing by the supervisor. Test equipment used and the manner in which it is used is specified.

C. Physical Effort: The physical demands of this job are not necessarily rigid and do not require unusual strength or endurance; however, incumbent must be able to spend long hours using a microscope. The items are lifted without aid for only a few feet and at a maximum weight of fifty (50) pounds. For greater weights, hoists, cranes, dollies and hand trucks are provided. Must have good color vision to differentiate color codes employed on wire and components which are integral parts of avionics systems. Good digital and manual dexterity is essential for microscopic work as well as good eye-hand coordination. Must have 20/20 vision (correction permitted).

D. Working Conditions: The work is generally performed in well-lighted, heated and ventilated areas. The inspector is exposed to the usual moving objects found in an industrial plant such as material moving equipment, cranes, etc., as well as energized electrical circuits (voltages as high as 2,500 volts), and sharp objects.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 1
FACTOR III - Degree A
CONCLUSION – WG-08

INSPECTOR
WG-2854-11

TYPICAL JOB DESCRIPTION

FOR

ELECTRICAL EQUIPMENT INSPECTOR, WG-2854-11

I. GENERAL

Performs or witnesses tests and inspections on electrical systems, components and devices on heavy duty mobile and materials handling equipment.

II. TYPICAL WORK PERFORMED

Inspects to assure operational reliability and performs, witnesses and evaluates tests on electrical systems, devices and components installed aboard heavy duty hoisting equipment such as dock, portal, hammerhead, floating, gantry, bridge, sidewall, hoist, monorail, jib, mobile cranes, locomotives, power shovels, tractors, graders, bulldozers, fork and high lift trucks, and radio controlled cranes including those certified for primary and secondary nuclear component lifting.

Determines need and extent of repairs, quality of work performed, compliance with specifications, plans, orders, directives, and sound shop practices. Conducts inspections and tests within shops and on systems installed aboard heavy duty hoisting equipment of all types; crane structures and electrical systems, such as electrical wiring, motors, generators, controllers, relays, limit switches, switchboards, transformers, cables, rheostats, resistors, and other electrical components.

Uses tools and instruments such as: hand tools, micrometers, calipers, feeler gages, dynamometers, voltage testers, tong meter, amp meter, tachometer, ohmmeter, and meggers, etc. In addition, occasionally performs inspections of mechanical systems.

Performs preventive maintenance and operating condition inspections on a scheduled basis. Prior to on site inspections, must review outstanding shop repair orders, crane trouble reports, maintenance and test records, operators daily check list reports, blueprints, specifications, sketches, and engineering procedures to insure that all items requiring inspection will be evaluated curing the inspection.

Prepares shop repair orders to specify corrective action and/or repairs needed to continue the equipment in operation; prepares crane trouble reports for engineering evaluation of specific problem areas; and end audits operators daily check list reports.

Prepares maintenance and test records to establish scope of necessary repairs and/or replacements that are required to allow

equipment to remain in service without endangering the safety of the equipment or personnel who are working near the equipment.

Makes recommendations as to the methods and materials required to accomplish the repair. Assists engineering personnel during specific test of equipment using knowledge of inspection quality assurance methods etc. to help the engineer evaluate the equipment.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a thorough technical knowledge and be highly skilled in electrical heavy duty equipment repairs. Must understand theory and work processes for manufacture, repair, installation, and operation of electrical mechanical, structure, welding, piping, electronics, and wire rope. Must be able to use various measuring devices and instruments, and use the sight, sound, and touch principle of inspection acquired through knowledge of the heavy duty equipment.

Must know how to read and interpret schematic circuit diagrams, blueprints, and engineering procedures. Must know safety precautions to be observed during test and inspection of heavy duty mobile equipment. Must know uses of all tools and instruments common in repair and testing of heavy duty mobile equipment and be qualified to use and instruct others in their use.

Must exercise initiative and judgment in planning sequence of inspection during layout, fabrication, installation and testing of components or systems. Must have ability to inspect and to recognize and require the highest standards of workmanship.

Must have the ability to complete detailed reports. New incumbents will receive intensive training on inspection criteria, and procedures as applied to the materials, components, and systems, and the need for exacting compliance with specifications, prescribed fabrication and installation methods and procedures required for specific inspection processes. Must be able to prepare precise written and oral reports to engineers and others.

Must be prepared to satisfactorily convince repair personnel of the need and reason for unusual and exacting quality requirements. The paramount requirement of this position is trade knowledge and experience in electrical or related trades. The trade of electrician is most nearly representative of the basic level of nonsupervisory work.

B. Responsibility: Receives assignments and general supervision from a supervisor qualified in the inspection of heavy duty equipment repair. Incumbent performs on-site electrical inspections and tests and makes determinations entirely on his own responsibility. Determinations of actual and potential deficiencies are based on guidelines such as NAVDOCKS P-300 and experience in the electrical trades. Must make recommendation for repairs and develop planned procedures for appropriate corrective action.

C. Physical Effort: Must have normal hearing and eyesight, either natural or medically corrected. Must be agile, able to use arms and legs for climbing and have the ability to work either in high places or tight spaces under adverse conditions. Should have the physical qualifications for working areas where there is a possibility of nuclear radiation.

D. Working Conditions: Inspectors are required to work inside or outdoors in all types of weather conditions, are exposed to dangers such as: moving objects, high elevations, electrical conductors, burns, cuts, noxious fumes, high temperatures, etc. Employees encounter smoke, dust, dirt, noise, vibration, poor illumination, exhaust fumes, grease, unpleasant odors, and dampness during their inspection of heavy duty equipment.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C
Conclusion – WG-11

TYPICAL JOB DESCRIPTION

FOR

GAGES INSPECTOR, WG-3401-10

I. GENERAL

Performs inspections of a variety of inspection and manufacturing gages.

II. TYPICAL WORK PERFORMED

Selects, sets and inspects acceptance (inspection} and manufacturing (production) gages to determine their suitability and accuracy for initial, continued and future use. All inspection duties are for conformance to predetermined specifications with respect to dimensional accuracy. Inspects gage features such as lengths, depths, radii, hole size, outside and inside diameters, thread form, pitch diameter, taper, surface finish, roundness, concentricity, etc. Selects and calibrates gages to inspect operations called out in routings and dimensions specified on part prints.

Performs acceptance inspection on "Standard Perishable Types." Inspection is to pre-determined local or federal specifications on thread ring and thread plug, cylindrical plug, cylindrical ring, and other standard perishables of commercial types.

Also, performs acceptance inspection of "Special" types of thread plug and thread ring and other special types (e.g., special arbors for gear checking).

Inspects for conformance to specifications with respect to hardness of material, physical dimensions and tolerances, thread form, root clearance, finish, etc. Makes recommendations regarding acceptance or rejection based on this inspection. Performs in-use inspection when requested by craftsman.

Performs inspections on "Standard and Special" non-perishable types also (e.g., dial bore, scrap, undercut, air gages).

Performs periodic maintenance inspection on active in-use gears. Normally this inspection is limited to certain points which are subject to wear or change, and dimensions inspected are indicated on the gage print as checkpoints. Therefore, this is not a complete or acceptance inspection.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have knowledge of the metal trades in order to converse with and assist model makers, toolmakers, machinists, and machinists inspectors in selecting the type of gages needed to check and/or inspect machined parts. Must be able to read and interpret special gage prints, and Federal and local specifications. Uses surface plate and layout technique and makes set-ups of limited complexity. Is required to improvise methods and determine sequence of work performance, or request equipment necessary to perform the work expeditiously. Uses standard measuring devices (electrical, mechanical, optical, Rockwell hardness testers, gage blocks, sine bars, plates, etc.), standard hand measuring devices, simple special fixtures, and works to

close tolerances. In the adjusting, selection, and setting of some gages, final adjustments and selections are made by feel.

B. Responsibility: After explicit instructions and break-in period, the incumbent is expected to proceed with limited supervision. When unusual or difficult problems are encountered. He/she may ask for detailed instructions. Incumbent is responsible for the dimensional accuracy of each gage issued from the gage crib. Where functional accuracy is to be determined or inspection equipment is not available in the crib, is responsible for forwarding these gages to the appropriate shop. Also is responsible for detecting and requesting repair to malfunctioning gage crib equipment. Normally, there is no further inspection of incumbent's work, but work is subject to periodic review and spot checks by higher authority. Written guides covering general application are provided.

C. Physical Effort: Heaviest weights handled would be approximately forty (40) pounds, the major portion of the weights handled are less than five (5) pounds. Heavy exertion is not required. Most of the work may be performed in a sitting position. Close attention of the eyes and digital dexterity are necessary.

D. Working Conditions: All work is performed in a well-lighted, fully air-conditioned building. Adequate cafeteria and hospital facilities are available.

IV. EXPLANATORY NOTE

The word "gages" as used in this position description shall encompass but is not limited nor restricted to perishable and non-perishable gages of the following types: standard cylindrical plug and ring gages, standard and special thread plug, ring, setting plug and wear limit gages, adjustable type (dial bore, snap, undercut, air) and specially designed gages.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree B
CONCLUSION – WG-10

ADDENDUM

The following is an excerpt from a 1974 OPM appeal decision on a job similar to that described in the Typical Job Description:

The following three factors are used in the inspector standard to determine the grade level of inspector positions: situation, responsibility, and skills and knowledges. Factor I concerns the situation in terms of scope, complexity of inspection processes and techniques. Factor II deals with the value and level of responsibilities. The degree of skills and knowledges needed to inspect in relation to the complexity of the product inspection and the nature and variety of inspection techniques comprise factor III.

According to the official position description, you apply a wide variety of inspection techniques to determine for hardness, tolerance, physical dimensions, thread form, pitch diameter, surface finish, etc., in conformance to pre-determined specifications on complex manufactured gages. After receiving explicit instructions, you proceed with limited supervision requesting further

detailed instruction only when unusual or difficult problems are encountered. To perform this type of inspection you have to have knowledge of metal trades, the ability to read and interpret special gage prints and specifications and be able to use standard electrical, mechanical and optical measuring devices.

A comparison of these duties to those described in the factors of the inspection series equates to a wage grade 10. Your situation is reflected in situation B of factor I of the standard. You use a wide variety of inspection techniques to inspect complex gages of close tolerance in accordance with pre-determined local or Federal specifications. A higher level situation would be found in an inspection job such as Computer Systems Inspecting where the inspection would be of a wide variety of processes and techniques, and many unique or specially designed precision instruments and gages. At this level the guidance materials are highly complicated and judgment must be frequently applied to modify the situation.

In your position, your level of responsibility may be described as working under limited supervision after receiving initial instruction. You have written guides provided and may ask for detailed instruction in difficult or unusual situations. The responsibility factor II equates to Level 2 of the standard. At the higher level, the employee independently performs the assignments, with only a brief outline of priorities, work sequence and policy matters. These assignments are carried out at a worksite where a supervisor is not readily available such as at a contractors plant, which is not the situation in your case.

The type of skills and knowledges at your level include knowledge of metal trades to enable you to converse with a variety of trade workers. It is required that you be able to read and interpret special gage prints and specifications. Also you have to be able to use standard measuring devices--electrical, mechanical, optical, gage blocks, sine bars and slates. You are required to apply a variety of difficult techniques using standard inspection and measuring devices, which equates to Degree B of Factor III of the standard.

At the higher level the employee would have to be able to inspect highly complex systems manufactured by highly skilled craftsmen. An employee in this type of situation would have to have the ability to use complex instruments, and testing devices and highly sophisticated equipment.

The above findings were applied to the grade determination chart for the Inspector series as follows:

Situation - B
Responsibility - Level 2
Skill and Knowledge - Degree B
Grade Level - 10

It is our determination that your position is properly graded as Gages Inspector, WG-3401-10.

TYPICAL JOB DESCRIPTION

FOR

MEASURING TOOLS AND GAGES INSPECTOR, WG-3401-12

I. GENERAL

Inspects a wide variety of tools and gages used in the machining, assembling and inspection of equipment.

II. TYPICAL WORK PERFORMED

Inspects a wide variety of tools and gages used in the manufacture (machining, assembling and inspecting) of equipment. Determines dimensional accuracy of tools being inspected, rejects those which do not meet specifications.

Inspects tools for conformance to tool drawings and specifications, quality of workmanship, completeness of manufacture, dimensional and functional accuracy, and dimensional tolerances. Examples of tools inspected include: autocollimators, cylindrical gages class XXX, XX, optical flats, measuring machines, interferometer, supermicrometers, vertical leveling mirrors, height gages - electronic, optical polygon, parallels, right angle prisms, master setting discs, optical squares, torque standards, granite surface plates, optical comparator, optical test wedge, end measuring rods, master tooling tapes, dial indicator calibration standard. Other tools inspected, using those listed above are drill jigs, sheet metal dies, gear cutters, thread hobs, master gears, mill, drill and lathe fixtures, broaches, form tools and cutters, special thread gages, profile gages and mechanical testing equipment.

Devises own inspection setups and layout techniques to determine dimensional accuracy of tools; computes angular, linear and circular measurements; and works from reference points by application of trigonometric formulae.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Skill and knowledge of tools used in the manufacture of equipment is required. Must interpret specifications, tool and gage drawings, sketches, mechanical and engineering handbooks. Uses mathematics through trigonometry and must have a knowledge of machine shop practice; mechanics and engineering as applied to the operation of tools; tool, die and gage making as well as a general knowledge of the metal working trades. Equipment used in the performance of these duties include optical, mechanical and electrical comparators, optical dividing heads, involute gear checkers, thread lead checkers, supermicrometers, sine plates and bars, thread measuring wires, vernier gages, optical flats and precision gage blocks, as well as a wide variety of the tools commonly associated with the toolmaking trade.

B. Responsibility: Performs duties under the general supervision of the Laboratory Supervisor, Engineering Technician, GS-ll. Is responsible for establishing own work methods and procedures and selecting the appropriate equipment to perform the duties. As no further inspection is made, incumbent is the final authority for the acceptance or rejection of a tool as to its meeting

pre-established specifications. Tools not meeting specifications are rejected with appropriate reasons. Controversial situations are referred to the supervisor for final determination. Work is performed without established guides.

C. Physical Effort: Performance of these duties requires intensive mental concentration. Physical exertion includes walking, standing and bending. Normal hearing and vision (correction permissible) are required.

D. Working Conditions: Work is normally performed indoors under environmentally controlled conditions. There are no undue hazards associated with the performance of these duties. May be required to visit areas in which machining operations are being performed for which adequate safety measures must be taken.

IV. EXPLANATORY NOTE

The word tools, as used in this job description, shall be interpreted as special tools and gages which are designed and built for a specific operation or function. Routine inspection of standard type tools and gages, such as taps, drills, milling cutters, etc., and standard type plug and ring gages shall be excluded.

EVALUATION

FACTOR I - Situation C
FACTOR II - Level 2
FACTOR III - Degree A
CONCLUSION – WG-12

ADDENDUM

The following is an excerpt from a 1975 OPM appeal decision on a job similar to that described in the typical job description:

The appellants work in the Mechanical Section, Metrology Laboratory of the Quality Assurance Office. The mission of the Mechanical Section, as stated in the Functional Charts of the Quality Assurance Office, is as follows:

1. Maintains mechanical standards which are calibrated by National Bureau of Standards or a Type I Naval Laboratory.

2. Calibrates and certifies mechanical standards and instruments used by Laboratories and field activities for calibration work.

3. Provides for periodic calibration of mechanical measurement instruments.

4. Performs research and development leading to calibration techniques for mechanical measurement instruments. Provides scientific solutions to mechanical measurement problems for naval laboratories, the Shipyard, Ship's force, and test groups.

Within this organizational and functional setting, the appellants inspect, maintain, and calibrate mechanical standards (linear, dimensional, mass, torque, force, optical, etc.} and precision measuring devices (gages, micrometers, dial indicators, optical comparators, etc.) submitted by shops, ships and other users. The purpose of this inspection is to determine and certify the accuracy of these items which must be kept within critical specifications. The appellants

accept/reject and calibrate these items which are used by other employees throughout the activity.

We have determined that the primary purpose of the job is the inspection, maintenance and calibration of mechanical standards and precision measuring devices. Since the paramount requirement for the performance of the work is trade or craft knowledge and experience, classification in the Wage System is appropriate.

We have also determined, that the work performed by the appellants does not fall precisely within the coverage of OPM's Job Grading Standard for Inspectors. That standard covers nonsupervisory jobs that involve examining services, materials, and products that are processed, manufactured or repaired by workers performing trade or craft work. The appellants are not engaged in the inspection of the work products of Toolmakers, Gagemakers, or other workers. While the inspections performed by the appellants do not precisely match the inspections covered by the Inspector Standard definition the skills and knowledges used by the appellants are similar to those identified with Inspectors in the Inspector Standard. The Inspector Standard, therefore, is much more relevant than any other standard because of the major importance of the inspection function in the position. Accordingly, we have evaluated the appellants' jobs by direct application of the Job Grading Standard for Inspectors.

The appellants inspect, maintain and calibrate a wide variety of laboratory standards, gages, and precision measuring tools. They read and interpret blueprints, sketches, and engineering handbooks. They use algebra, geometry, trigonometry and shop mathematics to determine values and tolerances of tools and gages submitted for calibration or acceptance. They use a variety of. measuring devices such as optical, mechanical and electrical comparators, optical dividing heads, gear checkers, thread lead checkers, supermicrometers, sine plates and bars, thread measuring wires, vernier gages, optical flats, precision gage blocks, shadowgraphs and other devices to determine the accuracy of the tools and gages being inspected. They make adjustments, replace components, use hand lapping equipment to obtain specified tolerances, and reject those items that do not meet specifications. The appellants work with considerable freedom from supervision, establish their own work methods and procedures, and independently certify or reject the items.

The Inspector Standard provides for grading Inspector Positions based on three factors. Factor I - Situation, Factor II - Responsibility, and Factor III - Skill and Knowledge.

Under Factor I, we find that Situation C, the highest situation provided for in the standard, is the most appropriate. This situation involves highly sophisticated and complex inspection work, usually of manufactured or repaired products, using not only a wide variety of inspection processes and techniques but many unique and specially designed precision instruments and gages. The skill to inspect requires in-depth knowledge of several trades or knowledge of a highly skilled trade. The product has a wide variety of quality characteristics and has highly critical tolerances. Guidance material is highly complicated and inspections are performed by using a variety of precision instruments, gages, and methods.

Under Factor II, the level of responsibility more closely matches Level II. At this level the supervisor provides general instructions, little technical assistance during the course of the assignment, and a review only for adequacy and conformance with desired objectives. Instructions and guides are usually

available but are complicated, require careful interpretation, and may involve modification. The responsibility does not meet the Level III definition. At that level the employee performs the assignment usually at a worksite where a supervisor is not readily available (such as at a contractor's plant). The Inspector makes decisions on a wide range of matters that may involve deviations or departures from past precedents and accepted practices or highly subjective judgments. Instructions and guides, when available, generally are not directly applicable.

Under Factor III, the skill and knowledge required, in relation to Situation C, more closely matches Degree A. Degree A involves application of a wide variety of inspection techniques to examine components, assemblies, or systems. Inspections performed require the use of special measuring and testing devices such as precision gages, optical flats, supermicrometers, sine plates and bars, etc. The position does not require the application of a wide variety of inspection techniques to examine assemblies and systems that have been manufactured or repaired by the most highly skilled craftsmen in several discrete trades, or a group of workers concerned with a complex system with numerous, complex, and interrelated assemblies such as ships' mechanical and piping systems, as stated in the standard for Degree B under Situation C.

With the position credited with Situation C under Factor I, Level II under Factor II, and Degree A, under Factor III, the OPM's Job Grading Standard for Inspectors provides for grading the position at WG-12.

We regard the present title of Gages Inspector as too narrow since the appellants inspect measuring tools as well as gages. We feel that "Measuring Tools and Gages Inspector" would be more appropriate.

In summary, our decision is that the position is appropriately classifiable as Measuring Tools and Gages Inspector, WG-3401-12."

TYPICAL JOB DESCRIPTION

FOR

MACHINED PARTS INSPECTOR, WG-3414-11

I. GENERAL

Performs inspections on machined parts and assemblies for ordnance, guided missiles and servoed fire control systems.

II. TYPICAL WORK PERFORMED

Performs visual and dimensional inspections on a wide variety of purchased and locally manufactured parts and assemblies to determine compliance with drawings, specifications and/or contract requirements. As required, sets up items on a precision surface plate and establishes center lines and other starting points for inspection, and performs dimensional inspections in accordance with drawings and specifications. Performs other dimensional inspections using fixed gages, micrometers, calipers, protractors, precision gage blocks, indicators, etc.

Performs functional checks such as flecture, or spring rate tests. Uses or operates equipment such as hardness testers, electronic plating thickness gages and surface finish analyzers to determine that part finishes and hardness characteristics comply with specified requirements. Performs inspections and tests on plating processes and maintains control charts. Performs magnetic particle inspections.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have training and experience in the machinist or equivalent trade. Must understand and be able to use standard precision measuring devices and techniques. Must be able to read and interpret drawings, standards and specifications, and applicable contract requirements. Must be able to use Rockwell and Brinell testers, surface analyzers, etc. and be able to qualify for magnetic particle inspections after a minimum training period. Must have a thorough knowledge of shop mathematics and the ability to determine various work methods, set ups, layout of complex parts and be able to make templates for use in inspection work.

B. Responsibility: The supervisor provides general instructions on policy, deadlines, reporting formats, etc. The inspector is provided little technical assistance during the course of work unless inspection setups are unusual or highly complex. Incumbent must devise inspection procedures, select appropriate methods, make set up, determine sample sizes and checkpoints, etc. Review of work is concerned with adequacy and conformance with desired objectives. Specifications, drawings, and/or procurement requirements may be complicated and require careful interpretation.

C. Physical Effort: The work requires moderate physical exertion involving walking, sitting, standing, kneeling and bending. May need to work in tiring or uncomfortable positions. Must be able to lift and move parts and gages, the maximum lifted without aid being seventy-five (75) pounds for not more than a

few feet. Good manual dexterity, 20/20 vision (corrected), and a good sense of touch in using inspection tools is necessary.

D. Working Conditions: Work is generally performed in well-lighted, heated and ventilated areas. The incumbent is exposed to the usual moving objects of an industrial plant and may work in close proximity to operating machine tools. Parts being inspected may have burrs and sharp edges and may be coated with oil, solvents, thinners, preservatives and the like.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-11

TYPICAL JOB DESCRIPTION

FOR

TOOLMAKING INSPECTOR, WG-3416-14

I. GENERAL

Performs inspection of tools and gages used in the machining, assembling and inspection of equipment.

II. TYPICAL WORK PERFORMED

Inspects a wide variety of tools and gages used in the manufacture, machining, assembling, and inspecting of equipment. Determines dimensional accuracy of tools being inspected, rejects those which do not meet specifications.

Inspects tools for conformance to tool drawings and specifications, quality of workmanship, completeness of manufacture, dimensional and functional accuracy, and dimensional tolerances. Examples of tools inspected are drill jigs, sheetmetal dies, gear cutters, thread hobs, master gears, mill, drill and lathe fixtures, broaches, form tools and cutters, special thread gages, profile gages, and mechanical testing equipment.

Devises own inspection set ups and layout techniques to determine dimensional accuracy of tools; computes angular, linear, and circular measurements; and works from reference points by application of trigonometric formulae.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Skill and knowledge of tools used in the manufacture of equipment is required. Must interpret specifications, tool and gage drawings, sketches, mechanical and engineering handbooks. Uses mathematics through trigonometry, and must have a knowledge of machine shop practice, mechanics and engineering as applied to the operation of tools. Must be qualified in tool, die, and gage making and have general knowledge of the metal working trades. Equipment used in the performance of these duties include optical, mechanical, and electrical comparators, optical dividing heads, involute gear checkers, thread lead checkers, super micrometers, sine plates and bars, thread measuring wires, vernier gages, optical flats, and precision gage blocks, as well as a wide variety of the tools commonly associated with the toolmaking trade.

B. Responsibility: Performs duties under the general supervision of the Toolmaker Supervisor. Is responsible for establishing own work methods and procedures and selecting the appropriate equipment to perform the duties. As no further inspection is made, incumbent is the final authority for the acceptance or rejection of a tool as to its meeting pre-established specifications. Tools not meeting specifications are rejected with appropriate reasons. Controversial situations are referred to the supervisor for final determination. Work is performed without established guides.

C. Physical Effort: Performance of these duties requires intensive mental concentration. Physical exertion includes walking, standing, and bending. Normal hearing and vision (correction permissible) are required.

D. Working Conditions: Work is performed indoors under ideal working conditions. There are no undue hazards associated with the performance of these duties. May be required to visit areas in which machining operations are being performed for which adequate safety measures must be taken.

IV. EXPLANATORY NOTE

The word tools as used in this job description shall be interpreted as special tools and gages which are designed and built for a specific operation or function. Routine inspection of standard type tools and gages such as taps, drills, milling cutters, etc., and standard type plug and ring gages shall be excluded.

EVALUATION

FACTOR I - Situation C
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-14

INSPECTOR
WG-4204-11

TYPICAL JOB DESCRIPTION

FOR

PIPING SYSTEMS INSPECTOR (PUBLIC WORKS), WG-4204-11

I. GENERAL

Inspects, and performs and witnesses tests on steam, water and air distribution systems; pressure vessels, motors; gages; plumbing, heating and air conditioning systems to determine need for repairs and preventive maintenance; locates the source of faulty operation, and determines and recommends the nature and extent of repairs required.

II. TYPICAL WORK PERFORMED

Inspects, and performs and witnesses operational tests on heating and ventilation systems, plumbing, pressure vessels, motors, generators, high and low pressure air compressors, pumps, turbines, water and air distribution systems, safety valves, and similar devices, gears, piping, etc., to verify that equipment, systems, and components are in good working condition or state of repair, and to locate the source of faulty operation. Makes follow-up inspections to determine whether or not work generated by initial inspection has been completed, bringing the system, equipment, component and facility up to standard specifications.

Determines cause of deficiency and most economical method of preventing recurrence; makes pertinent sketches; recommends repairs; determines when preventive maintenance work should be generated as a deterrent against any major impairment of facility utilization; and initiates corrective action before deficiencies become of major magnitude.

Prepares various Field Inspection Reports, indicating thereon the condition of each element or unit of facility or system inspected (by appropriate code); complete details of work which are required to correct any item found to be in an unsatisfactory condition; and preliminary estimate of number of manhours and cost of material required to accomplish required work. A field inspection report indicates work of an emergency nature, work that may be deferred, and indicates relative importance of deficiencies.

Furnishes a preliminary estimate with work centers involved in correcting the deficiencies. Reviews the facility or system, equipment, component with a view towards energy conservation and makes specific recommendations that may or may not involve expenditure of funds. Reviews historical data of the facility, system, equipment or component and updates these records to show changes in construction, etc.

Participates in the preparation of the Annual Inspection Summary (AIS) which covers all customer activities and is submitted to the

Naval Facilities Engineering Command (NAVFAC). Involved in the preceding is the provision of information contained in the various field inspection reports. From this Annual Inspection Summary, customer activities will generate work resulting from receipt of maintenance funds.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Reads blueprints and specifications. Occasionally, illustrates system, equipment, component and facility condition by sketches and diagrams. Uses practical mathematics in preparation of preliminary estimates of number of manhours and cost of material required to accomplish required work. Must know principles and methods of the various mechanical trades, i.e., Plumber, Pipefitter, Air Conditioning Equipment Mechanic, etc., in order that decisions made during field inspections may be correct in fact and detail.

Must use initiative and good judgment and have a working knowledge of the various mechanical trades in order to be capable of determining existing and potential deficiencies and their apparent cause; making recommendations for correction; and determining condition code, degree of urgency, effect if not completed, and estimated cost of repairs. Uses such measuring instruments as rules, tapes, gages, thermometers, and scales.

Must know the mission and operations accomplished by the customer activity and perform inspections in accordance with this knowledge. In order to update the Real Property Inventory System records when inspecting a facility, system, equipment, component, must be familiar with the computerized system used on a three year cycle. Must have knowledge of new construction, acquisitions, demolitions, and changes in tenants for all customer activities.

B. Responsibility: Receives supervision from the Facilities Inspection Branch Manager, a supervisory Planner and Estimator. Work is performed within the guidelines (oral and written) provided. Must adhere to established schedules in order that each unit, component, etc., will be inspected at proper frequency. Must be thoroughly familiar with Inspection Guides and/or other available material as necessary to insure inspection of all critical elements.

Since the majority of maintenance work is generated by physical review, responsible for reporting the condition of all public works mechanical systems; accurately diagnosing mechanical systems deficiencies; and realistically estimating the work required and cost thereof to maintain the systems in such condition that they may be used continuously for their intended purposes for their remaining economic life.

Written inspection reports are checked on a spot basis by supervisor for completeness and clarity. The Inspector is responsible for preparing a concise written description of the work to be performed which will preclude revisiting the site in determining the final estimate or in preparing the job order, and

will provide the cognizant shop sufficient information to permit prompt processing of the work.

Review of the Inspector's work in the field, is not made by the immediate supervisor, but, the supervisor makes on-the-site inspection when the Inspector encounters a situation or problem which he cannot solve. Responsible for selecting and using proper guides such as Field Inspection Reports, Facility History Records, Inspection Guide, Maintenance and Operation Manuals, NAVFAC digests and miscellaneous manuals.

C. Physical Demands: Work requires walking, kneeling, crouching, stooping, climbing of ladders, and at times being in awkward positions while inspecting. Close attention of eyes is required in order to detect deficiencies, and analysis by ear is required in order to determine defective conditions.

D. Working Conditions: The work of this position is both indoors and outdoors. Approximately 25% of the work is outdoors. Exposed to temperature extremes, dust, dirt, poor ventilation and dampness, poor illumination, etc. Hazards encountered are those normally encountered by workers in the various trades cited above.

These hazards include high voltage areas, points of high elevation, areas where injuries to eyes and limbs may occur, situations involving precarious footings, and areas where conditions are such that they are threats to the respiratory functions of the body, etc. These previous situations could result in broken bones, cuts, bruises, shocks, burns, and dizziness.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-11

TYPICAL JOB DESCRIPTION

FOR

LUMBER INSPECTOR, WG-4601-08

I. GENERAL

This job is located in the Receiving Operations Branch, Receiving Division, Material Department, Naval Supply Center. The primary purpose is to inspect, grade and identify lumber.

II. TYPICAL WORK PERFORMED

Inspects, grades, measures, tallies and identifies approximately 3,000 different items of lumber and its associated wood products received by the Naval Supply Center for compliance with all requirements of contract specifications.

Responsible for the inspection of truck loads, rail cars or other lots of lumber received at several locations within the Naval Supply Center, involving approximately 25 species of wood and 300 different grades. Determines species of lumber by certain physical characteristics such as the color and odor of the heartwood and sapwood, color of knots, general design of grain pattern, wood rays, structure of annual rings. Grades lumber according to physical defects, such as checks, decay, holes, knots, mis-manufacture, pitch, pitch pockets, pitch streaks, wane and slope of grain, and in accordance with intended use. Notes the quantity, location, type and size of defects and classifies lumber according to the grade that will allow or permit the defects. In addition to grading lumber, inspects for other contract requirements, such as moisture meter, markings, tally and proper loading.

Responsible for inspections of types of lumber, such as flooring, ceiling, siding, plywood, rail wood ties, creosote piling and other heavy timbers. Accepts or rejects lumber received and signs lumber inspection reports.

Identifies and grades surplus lumber returned to stock by ships or outlying activities. Will perform other inspection duties as required.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Knowledge of items in the supply system, regulations regarding material acceptance inspections; and the ability to read, interpret and apply applicable guide line material. Ability to use measuring equipment and ability to make arithmetical computations. Must possess a very good knowledge of various species of wood, methods and procedures of handling and inspecting lumber and sound judgment in properly grading lumber. Must possess ability to communicate orally and in writing with the various Government DCASD, DCASR Offices and DCAS, Wood Products Office, relating to buying and paying of lumber, to lumber mills and contractors throughout the country. A valid drivers license is required.

B. Responsibility: The supervisor is the branch head, who assigns work areas and special projects and evaluates performance through the review of reports and correspondence prepared by the incumbent. The incumbent independently plans and

carries out inspection processes using seasoned judgment based on extensive experience with the variety of wood items in the supply system. Collaborates with the supervisor relative to changes in procedures, special assignments, etc. Is recognized as the authority on technical matters pertaining to lumber and it's associated wood products. Is delegated full authority to accept and reject lumber received, receives no specific instructions, other than to expedite certain shipments, and no review of finished work. Serious consequences in economy, injury to personnel, and severe damage to structures could result from the improper inspection and grading of lumber.

C. Physical Effort: Work requires walking, standing, crouching, kneeling often for prolonged periods. Requires working in awkward and uncomfortable positions. Must be able to lift and handle lumber and must have good vision (corrected).

D. Working Conditions: Work is both indoors and outdoors. May be exposed to temperature extremes, poor ventilation, inclement weather, dust, dirt, and dampness. Work situations could result in broken bones, cuts, bruises, splinters and other hazards from handling lumber.

EVALUATION

FACTOR I -Situation A
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-08

INSPECTOR
WG-4701-11

TYPICAL JOB DESCRIPTION

FOR

PUBLIC WORKS MAINTENANCE INSPECTOR, WG-4701-11

I. GENERAL

Inspects roads, grounds, railroad tracks, buildings, piers, wharves and waterfront structures, and other public works structures and their components to determine need for repairs and preventive maintenance. Locates deficiencies, makes appropriate reports, and recommends corrective action.

II. TYPICAL WORK PERFORMED

Inspects housing, messing, utility and industrial buildings; underground structures such as sanitary sewage, storm drainage pipelines, and manholes; improved and unimproved grounds; streets, roads, walks, parking areas, and storage and working areas; trestles and towers; trackage (railroad and crane}; fences; piers and wharves; breakwaters, seawalls, quaywalls and causeways; moorings; camels and floats; and components thereof to verify that the structures, grounds and improvements are in good state of repair, and to detect existing and potential deficiencies. Makes follow-up inspections to determine whether or not work generated by initial inspection has been completed, bringing the facility up to standard specifications.

Determines cause of deficiency and most economical method of preventing recurrency; makes pertinent sketches; recommends repairs; determines when preventive maintenance work should be generated as a deterrent against any major impairment of facility utilization; and initiates corrective action before deficiencies become of major magnitude.

Prepares various Field Inspection Reports, indicating thereon the condition of each element or unit of facility inspected (by appropriate code); complete details of work which are required to correct any item found to be in an unsatisfactory condition; and preliminary estimate of number of manhours and cost of material required to accomplish required work. A field inspection report indicates work of an emergency nature, work that may be deferred, and indicates relative importance of deficiencies.

Furnishes a preliminary estimate with work centers involved in correcting the deficiencies. Reviews the facility or structure with a view towards energy conservation and makes specific recommendations that may or may not involve expenditure of funds. Reviews historical data of the facility or structure and updates these records to show changes in construction, etc.

Participates in the preparation of the Annual Inspection Summary (AIS) which covers all customer activities and is submitted to the

Naval Facilities Engineering Command (NAVFAC). Involved in the preceding is the provision of information contained in the various field inspection reports. From this Annual Inspection Summary, customer activities will generate work resulting from receipt of maintenance funds.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Reads maps, blueprints, sketches, specifications for wood, steel, and concrete structures, street paving and railroad track structural requirements, and specifications and operational requirements for waterfront structures. Uses practical mathematics in preparation of preliminary estimates of number of manhours and cost of material required to accomplish required work. Must know principles and methods of the various construction trades, i.e., Carpenter, Painter, Plasterer, in order that decisions made during field inspections may be correct in fact and detail.

Must use initiative and good judgment and have a working knowledge of the various construction trades in order to be capable of determining existing and potential deficiencies and their apparent cause; making recommendations for correction; and determining condition code, degree of urgency, effect if not completed, and estimated cost of repairs. Uses such measuring instruments as tapes and scales, charts for measuring lumber and concrete, etc.

Must know the mission and operations accomplished by the customer activity and perform inspections in accordance with this knowledge. In order to update the Real Property Inventory System records when inspecting a facility or structure, must be familiar with the computerized system used on a three year cycle. Must have knowledge of new construction, acquisitions, demolitions, and changes in tenants for all customer activities.

B. Responsibility: Receives supervision from Facilities Inspection Branch Manager, a Supervisory Planner and Estimator. Work is performed within the guidelines (oral and written) provided. Must adhere to established schedules in order that each unit or facility will be inspected at proper frequency. Must be thoroughly familiar with Inspection Guides and/or other available material as necessary to insure inspection of all critical elements.

Since the majority of maintenance work is generated by physical review, responsible for reporting the condition of all public works structures, grounds and improvements; accurately diagnosing facility deficiencies; and realistically estimating the work required and cost thereof to maintain the facility in such condition that it may be used continuously for its intended purpose for its remaining economic life.

Written inspection reports are checked on a spot basis by supervisor for completeness and clarity. The Inspector is responsible for preparing a concise written description of the work to be performed which will preclude revisiting the site in determining the final estimate or in preparing the job order, and

will provide the cognizant shop sufficient information to permit prompt processing of the work.

Review of Inspector's work in the field, is not made by the immediate supervisor, but, the supervisor makes on-the-site inspections when the Inspector encounters a situation or problem which he cannot solve. Responsible for selecting and using proper guides such as Field Inspection Reports, Facility History Records, Inspection Guide, Maintenance and Operation Manuals, NAVFAC digests and miscellaneous manuals.

C. Physical Effort: Work requires walking, kneeling, crouching, stooping, climbing of ladders, and at times being in awkward positions while inspecting buildings, towers, water tanks, etc. Close attention of eyes is required in order to detect deficiencies, and analysis by ear is required in order to determine defective conditions.

D. Working Conditions: The work is performed both indoors and outdoors. Exposed to temperature extremes, dust, dirt, poor ventilation and dampness when inspecting grounds, exposed areas, piers and void spaces under buildings. Hazards include high voltage areas, points of high elevation, areas where injuries to eyes and limbs may occur, situations involving precarious footings, and areas where conditions are such that they are threats to the respiratory functions of the body, etc. These situations could result in broken bones, cuts, bruises, shocks, burns, and dizziness.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-11

TYPICAL JOB DESCRIPTION

FOR

BUILDING MAINTENANCE INSPECTOR, WG-4749-10

I. GENERAL

This position is located in the Quarters and Housing Division. The primary purpose for the position is the inspection of all buildings, structures, including structural, mechanical and electrical features or systems of quarters and housing controlled by the Division.

II. TYPICAL WORK PERFORMED

A. The inspector is responsible for performing the check-out inspection in all quarters. These check-outs entail reporting the inventory and condition of the furniture, and total structure. The inspector visually inspects the following:

1. Structure - walls, ceilings, siding, roofs, windows and casings, doors and casings, termite damage, floors and exterior trim, counter tops, door steps, skirt boards, stairways, gutters and down spouts, screens, locking devices, decorative and protective painting, masonry and plaster work.

2. Electrical - for operation of light switches, exhaust fans, electrical stoves, thermostat for heat and visual inspection of TV cable.

3. Plumbing - checks operation of faucets, drains, hot water heater operation and visual inspection of sinks, tubs, lavatories, commodes and operating devices.

4. Heat - checks for proper operation of gas stoves, heaters and oil-fired heaters.

5. Inventories and visually inspects furniture.

6. Refrigerators and air conditioners.

The inspector determines what is to be repaired, replaced, removed or painted. Writes the inspection report of the unit interior and exterior and is also responsible for initiating maintenance work request for routine and major repairs necessary to make the quarters available for a new tenant. Initiates requests to the contractors to have the quarters treated for termites or painted. The inspector is responsible for ascertaining that the housing areas have adequate drainage and the paving of streets and sidewalks is in a proper status of repair, and assists in the plotting and specifications for the same. Deals with the tenant to ensure a clean unit is ready for the next occupant and assesses charges for damages to property and furniture incurred by vacating tenants.

B. The inspector observes and reports on occupant maintenance including cutting of grass, pruning of shrubbery, the appropriateness of fences, porches, TV antennas and structures which the tenant may erect. On occasion, inspects occupant interior paint jobs where the occupant has been issued paint for self-

help painting. Inspects work performed by Public Works Contractors and maintenance forces on an as-required basis and assists the Housing Management Section in preparing special projects and the annual inspection condition reports for the entire housing area.

C. The Inspector serves as a member of the Disaster Control Watch and stands duty in case of hurricane or other imminent disaster. On occasion, inspector may be asked to do structural inspections of offbase housing when the relative safety thereof is in question, or to inspect fire-damaged quarters. Performs other miscellaneous duties as assigned.

D. Writes up inspection report, on site (Housing Inspection Report tlllOl/28). Initiates Housing Work Requests (#11101/2 and 11101) which request maintenance to do the work required under specific job numbers. Initiates requests for contractors to do painting and termite treatment.

III. FACTOR STATEMENTS

A. Skill and Knowledge: The paramount skill requirement is for journey level skill and experience in one of the building or mechanical trades. Uses 6' rules and 100' tapes for measurement. Works from Base Order 11101.30G for Housing Management policies and procedures and Base Order P11101.32D, Rules, Regulations and Instructions for Occupants of Family Housing. Draws mainly on knowledge of good construction practices for structural, electrical and mechanical, acquired by trade experience. Incumbent is required to have government driver's license for one-half ton pick up and van. Required to report accidents, defects in vehicle operation, damages and traffic violations and be able to make inspections and maintain cleanliness of vehicle. Must be capable of operating a two-way radio, and communicate with all sections of the Family Housing Division.

B. Responsibility: The immediate supervisor is the Associate Supervisory Inspector (PWS). The inspector is assigned an individual area (i.e., Midway Park, Paradise Point, Tarawa Terrace). It is up to the inspector to see that all work is accomplished for that day. Inspections are set up by appointment and accomplished independently. Instructions are general in nature and each quarters has to be treated as an individual unit. Incumbent spot checks to see that work is satisfactory and if the quarters are receiving the work requested. Inspection reports are reviewed for analyses of what is being done in assigned area.

C. Physical Effort: Is required to crawl through attics and under quarters in crawl spaces. On occasion must use ladders to get on roofs. Must have good vision with or without corrective devices. Must qualify to drive pickup truck.

D. Working Conditions: Is required to work in all types of weather. Must be able to deal with tenants under frustrating conditions with possible threats of physical violence and mental aggravation.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree B
CONCLUSION – WG-10

INSPECTOR
WG-5334-13

TYPICAL JOB DESCRIPTION

FOR

MARINE MACHINERY INSPECTOR, WG-5334-13

I. GENERAL

This position is located in the Mechanical Section, Mechanical and Piping Branch, Non Nuclear Inspection Division, Quality Assurance Office. The work involves inspection of mechanical systems on surface vessels and submarines.

II. TYPICAL WORK PERFORMED

A. Receives both specific and general assignments for inspection of surface ships and submarines mechanical systems using highly sophisticated techniques. Performs inspections and witnesses tests on mechanical systems and associated components/equipment installed aboard naval vessels to determine compliance with specifications and quality level required. Also inspects and witnesses tests on system components and equipment being worked in various shops. When noncompliance with specifications are detected, the inspector can place production work in a hold status.

1. Types of inspections performed include, but are not limited to, preliminary, in-process, pretest/final and witnessing of systems tests. Examples and frequency of the aforementioned inspections that are conducted by the inspector are as follows:

(a) A preliminary/prearrival inspection is a detailed inspection conducted to determine existing conditions (deficiencies/discrepancies) on the vessel. The results are used to aid planning in scoping a work package for the vessel. The inspection includes the majority of the ships mechanical systems and components and is conducted from plans, experience, and the inspectors intimate knowledge of the systems, without the benefit of instruments.

(b) An in-process inspection is conducted at various checkpoints during the removal, disassembly, repair, assembly and installation of all systems and associated components/equipment. Timeliness and accuracy is required in these inspections to eliminate holdups, rework, and ensure specification conformance to critical dimensions, cleanliness, material level, and identity, welding, alignment, and completeness.

(c) A pretest/final inspection is conducted after system/ component installations are complete. Precise knowledge of the systems, applicable specifications and quality level is required. The hardware inspection includes a review of software to verify compliance and completeness of work. This is the last inspection prior to pressurizing/operating/testing the system. It must identify all items requiring correction prior to commencement of system tests to ensure tests will proceed without delay.

(d) Shop and shipboard test are witnessed by the inspector to verify and document component, equipment, and system strength and tightness and satisfactory operational performance. For submarines, this constitutes final

certification of ability to operate safely in the hostile underwater environment.

2. The inspections above require the use of highly skilled and experienced personnel knowledgeable of ships equipment, test gear and systems to the extent that coordination with engineering and production personnel will prevail. Must be capable of interpreting technical specifications, directives, and Navy publications, and clearly identifying discrepancies and deficiencies. The inspector must be able to make on-the-spot controversial acceptance and rejection decisions and defend the actions, both orally and in writing.

(a) From a large variety of reference specifications, the inspector must determine and assemble pertinent information and materials necessary to effectively accomplish planning, scheduling, inspection and reporting required in the performance of his duties. The planning and inspections must coincide with production shops work, and reporting of discrepancies and deficiencies must be in accordance with the Ship's Status Reporting System. Requires the exercise of initiative and judgment in performing proper follow-up to assure timely corrective action.

(b) Types of components, equipment and systems inspected during the preliminary, in-process, and pretest/final inspections are a wide variety of hull fitting, hatches, main steam valves main sea water valves and pumps, torpedo tube components, propellers, shafting, periscopes, high pressure air valves, steam turbines, force draft blowers, condensors, ship's service generators, boilers, diesel generators, diesel engines, air compressors, radar and ECM masts, anchor windlass, winches, messenger buoys, auxiliary systems valves and pumps, signal ejector, trash disposal, aircraft elevators bomb handling equipment, steering and diving control, main and vital hydraulics system, main and auxiliary sea water system, air salvage, trim and drain, hovering and main propulsion systems. This gear is seldom the same from ship to ship.

(c) The more complex systems and equipment requiring stringent inspections and documentations in the Sub-Safe Area are main sea water, auxiliary sea water, air salvage system, depth gauge, diesel exhaust, trash disposal unit, trim and drain system, hovering system, torpedo tube flood and drain, shaft seal, H.P. air and steering and diving control system.

(d) A typical example is inspection, certification, and documentation required for hull and backup ball valves in the Sub-Safe Area of nuclear submarines. The inspector verifies and maintains reentry control for removal, makes visual inspection reports, certifies repairs, witnesses shop tests, witnesses reinstallation, documents final shipboard test and completes the reentry. Above valves range from V to 14" in size and pressures up to 4500 PSI. There are approximately (200) Sub-Safe Valves for each overhaul and approximately (700) Sub-Safe joints to be documented, certified, and audited for correct size, material, torquing, and markings. No error is permitted.

(e) Certification by the nonnuclear inspector ensures that the customer receives a safe, workable, and reliable system, preserves the watertight integrity of the vessel and assures that the mission of the vessel can be accomplished.

3. Tools and equipment used by the mechanical inspector are numerous and complex. Examples follow: borescopes (optical),

depth gauges and indicators, micrometers, vernier calipers strobotacs, pyrometers, vibration calibrators, airsonic stethoscope, tachometers (electrical, mechanical, and photoelectric), torque wrenches, pressure gauges, flowmeters, thermometers, amp/ ohm meter, comparators (surface analyzer), ultrasonic leak detector, durometer, dynamometer, dielectric spark tester, profilometers and fiber optic cystoscope.

B. Additional duties (non-inspection) performed are:

1. Participating in conduct of audits, submitting reports and recommendations.

2. Maintaining files, charts, and status reports on progress inspections/documents completed.

3. Assembles and reviews software for submission to official records via immediate supervisor.

4. Assist in training recruited inspectors.

5. Investigate and submit report on assigned problem area and special projects.

III. FACTOR STATEMENTS

A. Skill and Knowledge: The inspector must have: A thorough technical knowledge of the machinist/ boiler trade; an understanding of mechanical theory and mechanical work processes for manufacture, repair, installation, and operation of mechanical/boiler systems and equipment; and of the interface systems structural, piping, and electrical.

The ability to read and interpret correctly, complicated written technical material such as: instructions, job orders, specifications, procedures, sketches, drawings, and blueprints. The ability to determine overall inspection needs, quality check-points, and prepare procedures or checklists for quality control. A keen insight to make early determination of nonconforming or problem areas and communicating these observations to quality assurance supervision, production supervision, or others as required for effective resolution and quality control.

A good facility of communication, both oral and written, and preparation of specific and precise memorandums or other written communications. Flexibility and ability to quality inspect in other craft areas, inspecting structural, piping, or electrical systems when required. A diverse knowledge and skill in use of mechanical, electrical, and electronic gauging and measuring instruments. A knowledge of mathematics sufficient for onsite calculations to determine acceptability.

A capability for making decisions of acceptance or rejection on complex systems or equipment. When required to perform inspections of work performed by private contractors (off base) interprets specifications, blueprints and contract requirements and makes final acceptance or rejection prior to payments to contractor. A capacity for further quality assurance and technical development through training.

B. Responsibility: The inspector works directly for the supervisory inspector (Ship's Mechanical Systems) who provides general instructions as to the scope

and requirements to be complied with. Instructions and procedures are usually available but the contents require careful interpretation by the inspector because of the complications that could result if not adhered to. The inspector is required to perform the duties with minimum technical assistance and make decisions requiring careful interpretation of plans and specifications on a wide variety of complex problems.

Decisions on workmanship and/or materials could cause or prevent an incident of catastrophic proportions. Example: Malfunction of a Submarine's Steering and Diving System or an Aircraft Carrier's Catapult System may result in damage to equipment, injury/death of personnel and in the ease of submarines may result in loss of the boat. Is also responsible for making production shop supervision aware of Quality Assurance procedures and requirements in the normal performance of duties.

C. Physical Effort: Must have the physical ability to perform duties in areas reached by ascending or descending ladders, staging, etc. Must be able to perform inspections in confined spaces for prolonged periods of time in standing, stooping or crouching positions which would cause muscular effort or physical strains. Must possess normal color sensitivity, muscular coordination, visual acuity, and be emotionally stable to make decisions in unusual situations.

D. Working Conditions: Inspectors are required to work in areas of poor footing, high altitudes, around operating machinery and electrical equipment, radiation and contamination exposure. These areas may be within the confines of buildings, ships, or outside locations exposed to weather elements. Protective clothing and/or equipment may be required for personal protection from noxious fumes, contamination, dust, grease, and weather. Job commitments at times require travel to other facilities on very short notice, rotation of work shifts and extended working hours.

EVALUATION

FACTOR I - Situation C
FACTOR II - Level 2
FACTOR III - Degree B
CONCLUSION - WG-13

INSPECTOR
WG-5350-11

TYPICAL JOB DESCRIPTION

FOR

PRODUCTION MACHINERY INSPECTOR, WG-5350-11

I. GENERAL

This position is located in the Production Department, Mechanical Group, Central Tool Shop. The purpose is to perform diagnostic inspection of machine tools and equipment to determine the nature and scope of repairs, skills required to restore the item to service.

II. TYPICAL WORK PERFORMED

A. Inspection of new installation of machinery and equipment under contract.

(1) Verification of contract specifications, including, components, attachments and shipping conditions. Directing proper assembly according to manufacturer's blueprints, sketches and required lubrication.

(2) Study floor plan layout in regard to safety conditions concerning base support, lighting, walkways, high voltage, air and electrical connections, and crane and rigging service for safe handling of heavy equipment; and conduct acceptance test after completion of installation.

(3) Tools and equipment used consist of micrometers, test bars, test blocks, transit, vibration analyzer instrument, dial indicator and precision level, pressure gauges.

B. Emergency break-downs and general repair.

(1) Inspecting conditions of machines and components, analyzing cause of break downs, writing specifications for material and parts, including man level hours and crafts involved, keeping abreast of progress and craftsmanship during repair.

(2) Inspects received parts and materials for repair and discusses plans, blueprints and layouts for installation with management and crafts involved. Conducts final test for proper operation and record parts, manhours and material cost on master files. Also notify higher management of completion.

(3) Tools and equipment used consist of micrometers, test bars, test blocks, transit, vibration analyzer instrument, dial indicator and precision level, pressure gauges.

C. Special Numerical Controlled Machines.

(1) Inspection of numerical controlled machines includes a variety of models, sizes and manufactures, consisting of complex mechanical and electronic components such as hydraulic and lubrication systems, air, vacuum and coolant systems, tape readers and calibrated equipment to work in sequence with all components.

(2) Uses programmed test tapes to check proper sequence of point to point operation. Refers to blueprints and factory manuals for correction of operation and accuracy. Submits to management the inspection report listing initial results, recommending replacement parts as found necessary to place in proper operation. After repair, makes final test and records results on master file.

(3) Tools and equipment used consist of micrometers, test bars, test blocks, transit, vibration analyzer instrument, dial indicator and precision level, pressure gauges.

D. Lubrication.

(1) Directs proper application and quantity of lubrication to all machinery and equipment including filtration and oil change cycles. Prescribes purchase specification when special oil and grease are required.

(2) Reads blueprints of lubrication systems, study of environmental conditions and location of equipment. Tests lubrication systems in operation.

(3) Equipment used includes: test gauges, thermometers, temperature regulators and portable filtration pumps.

E. Special assignment other than inspection.

(1) Develops a continuous maintenance program for industrial production equipment, researching manufacturers' manuals to determine preventive maintenance requirements unique to individual items of industrial production equipment and the preparation of guidelines to be followed by the maintenance mechanic servicing the equipment. Also compiles and assembles preventive maintenance guidelines into a comprehensive maintenance manual.

(2) Updates the old lubrication system to meet the modern complexity of production machinery and equipment. Formulates guidelines and lubrication codes for daily, weekly, and yearly cycles .

III. FACTOR STATEMENTS

A. Skill and Knowledge:

Inspection techniques used include use of test tapes for tape machines, vibration analysis instruments, analytical test sheets, precision measuring instruments, pressure gauge readings; study of past reports of repairs and operation of equipment; and conversations with machine operators.

Machinery Inspectors must have the background of skills and knowledge as gained through administration or technical fields. Is required to be familiar with the nomenclature of all types of machines and equipment, keeping abreast of the modern technology through "Naval Ships Technical Manuals", manufacturers' manuals, lubrication manuals and talking to factory engineers and representatives about technical and mechanical problems. The completion of a trade theory course or a sufficient time spent in maintenance operations. Hydraulics can be considered the paramount trade knowledge required in machine maintenance

Modern machinery requires a vast knowledge of hydraulics, lubrication and pneumatic systems, controlled by electronic solenoids with special emphasis on

lubrication systems. Technical advancement in machinery requires more mathematics, vibration analysis study, numerical control technology and precision calibrated units. The preparation of deficiency reports requires above average ability to communicate in writing in sufficient detail and clarity to enable higher management to take prompt remedial action without further inquiry or additional detail.

Machinery Inspectors must have the ability to read blueprints, sketches and interpret manufacturers' manuals on operation and maintenance of machinery. Also must understand and approve specifications for new machinery installations, be able to draw and sketch plans for alterations and parts to be manufactured.

Machine maintenance requires judgment and ingenuity in decisions such as: what parts need replacing, value and age of equipment, the alterations of parts not available, lubrication changes, location of machinery and attachments for best operational results.

B. Responsibility: Receives supervision from a Production Machinery Mechanic Supervisor. Job orders, phone calls, routine inspection and special assignments are processed through the supervisor with instructions to inspect as required. Supervisor reviews inspection reports and processes them for action, followed by final performance test by inspectors and recorded in the Master File.

Machinery inspectors are responsible for continuous preventive maintenance inspection of production machinery in direct support of the Equipment Maintenance Control Program. This position is primarily concerned with diagnostic preventive maintenance inspections. Condition of machinery is determined through technical tests, and precision measurements. Findings are analyzed and recommendations made for corrections, improvements, or disposal. Conducts special inspections and pilot programs to furnish information needed but not available through regular information channels.

Directs trades workers in assembly or disassembly of equipment. Also assists in locating hydraulic, lubrication and mechanical problems.

C. Physical Effort: Efforts exerted will vary in degree, frequency and duration depending on the size of the job. Some pushing, pulling and lifting are required on most jobs, with a 50lb limit on weight. Inspectors are required to climb around machinery and equipment, including high and low elevations. Most jobs require standing, stooping, crouching, kneeling, walking and climbing ladders.

D. Working Conditions: Inspectors work inside and outside, however, a good part of the work is performed in an office environment. All types of weather involving extreme temperatures, including environmental conditions such as: dirt, grease, noise, and vibration. Exposed to electrical high voltage, high pressure air, steam and hydraulics, and high speed revolving units. Some jobs require coveralls, gloves, safety glasses and hard toe shoes.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-11

INSPECTOR
WG-5413-10

TYPICAL JOB DESCRIPTION

FOR

FUEL DISTRIBUTION SYSTEMS INSPECTOR, WG-5413-10

I. GENERAL

This job is located in the Fuel Branch, Material Division, Supply Department of the Naval Air Station. The incumbent is responsible for the quality, surveillance and safety of operations for all POL products, and for the inspection of fuels handled by the Fuel Branch such as; JP-5, 115/145, motor gasoline, diesel oil, aviation lube oil and motor lube oil.

II. TYPICAL WORK PERFORMED

Under the direction of the Supervisor, Fuel Branch, the incumbent maintains a system of records and reference manuals such as: safe methods of handling POL products, fire prevention methods, and work safety methods.

Complies with all instructions, notices and other technical references such as: manufacturers' manuals, NAVAIR, Fuel Petroleum Office, NAVSUP, NAVFAC, etc.

Takes samples of all POL products received and perodically samples fuel storage tanks, fill stands, contractor's refueling equipment and NARF fuels returned for credit. Sends these samples to the Naval Supply Center Petroleum Testing Laboratory for analysis. Takes proper action on these results such as: downgrading or upgrading fuels, insures that fuels that do not meet the test requirements are transferred to the proper storage tanks or if found contaminated, disposed of in accordance with existing instructions.

The incumbent monitors the contractor's refueling/defueling and reoiling equipment at frequent intervals for quality surveillance of fuels received and issued, safe operation of equipment, cleanliness of vehicles and premises, and inspects all equipment that is used by the contractor to insure that such parts and material used meets the specifications in accordance with the current contract general delivery conditions.

Takes visual fuel samples in glass jar and evaluates for color, sediment and water content in accordance with existing NAVAIR Instructions. This evaluation determines if fuel is of proper color for type fuel sampled, the amount of these items found in the various fuels will determine if the fuel is fit or, unfit for issue to aircraft.

Exercises surveillance over the loading of aircraft refuelers at the fill stands for the proper loading procedures, the transfer of fuels from the aircraft refuelers to the aircraft, and defueling from the aircraft back to the aircraft refuelers. These operations require quality inspections of the products and the truck refuelers, their appurtenances, appendages and accessories to maintain the quality control program and safe refueling/defueling and reoiling operations. Conducts continuous inspections of stored petroleum products to assure maintenance of quality standards such as; presence and extent of rust, sediment and water in the storage tanks and truck refuelers.

Assists in the investigation of problems involving fuel contamination such as: origin of rust, paint chips, water and etc., found in aircraft fuel tanks and other containers used by the squadron or tenant activities. Provides technical service to fleet and station activities as requested, and random samples aircraft fuel tanks, working with the fuel officers of these activities on all aspects of quality control and surveillance of petroleum products.

Conducts safety inspections at frequent intervals daily to insure that the proper procedures are used during aircraft refueling, defueling and reoiling. Reports these discrepancies on the form provided.

Trains, tests, evaluates testing results and recommends to the fuel branch supervisor those personnel of the fuel branch (Fuel Contractor Personnel) who qualify to operate the fuel farm systems and aircraft refueling, defueling and reoiling equipment. Training aids used in the above are transparencies, overhead projector 16mm movie projector and other aids that may be available.

Incumbent must be able to drive automotive vehicles up to five (5) tons which includes gasoline carrying vehicles and possess a valid U.S. Government Motor Vehicle Operator's Identification card.

Perform any other duties that may be assigned.

When designated, makes cash sales of aviation petroleum products to other than Navy owned and operated aircraft.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Incumbent must have considerable knowledge of the chemical, physical and handling characteristics of all types of petroleum products and related products, knowledge of operation of pumps, piping, tanks and their appurtenances, pumping and loading procedures, experience in gauging techniques, ability to interpret and understand schematic piping and flow diagrams, blueprints, various complex standards and specifications; must possess mathematical knowledge to accomplish quantity computations from calibration charts; must have knowledge of and ability to use testing equipment, training aids, determine sampling procedures and evaluate routine test results in relation to product quality; must have ability to prepare and write inspection reports; and ability to personally deal with all levels of military and civilian personnel.

B. Responsibility: General supervision is received from the Fuel Branch Supervisor, presently a Supervisory General Supply Officer, GS-2001-11, who makes assignments and furnishes guidance and decisions on problems beyond the realm of knowledge required of the inspector. Supervision received is both administrative and technical.

C. Physical Effort: Must be in good physical condition and able to climb ladders to top of tanks, tank cars, tank trucks, and barges. Work is performed at a normal rate. Color vision, hearing and smell must be reasonably acute.

D. Working Conditions: Work requires handling of liquid fuels and working near and on the runways. Dangers could result in cuts, abrasions, burns, broken limbs, suffocation, lead poisoning and possible loss of life. Approximately 80% of work is performed outside under all kinds of weather conditions, such as extreme temperatures, dust, dirt and noise.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree B
CONCLUSION – WG-10

INSPECTOR
WG-5803-11

TYPICAL JOB DESCRIPTION

FOR

HEAVY MOBILE EQUIPMENT REPAIR INSPECTOR, WG-5803-11

I. GENERAL

Inspects, performs and witnesses tests on the electrical mechanical, hydraulic, air, fuel injection systems, transmissions, etc., of such heavy equipment as locomotives (40-1O0 tons), diesel-electric floating derricks (50-100 tons), 25 ton diesel-electric portal cranes, mobile cranes (25-70 tons), portable generators (50 horsepower), locomotive crane (30 tons), electric bridge cranes (15-30 tons), and straddle trucks (15-20 tons), to determine the nature and extent of repairs or overhaul required and the adequacy of completed repairs.

II. TYPICAL WORK PERFORMED

Makes shakedown inspections of heavy equipment such as locomotives, diesel-electric floating derricks, diesel-electric portal cranes, mobile truck cranes, portable generators, locomotive crane, electric bridge cranes, and straddle trucks, either at the work site or in the shop to determine need for repairs, nature and extent of repairs required. Inspects varied systems and components of the preceding such as, electrical, mechanical, hydraulic, air, fuel injection systems, transmissions, gear drive units, compressors, oil and water coolers, steering mechanisms, differentials, generators, starters, gages, instruments, track (sprocket, sprocket guide, etc.). Determines nature and extent of work required to restore equipment to good operating condition economically without over-servicing or under-servicing. Diagnoses specific troubles and determines the nature and extent of disassembly and repair work required. Makes visual and operational checks on vehicles, systems, and components.

Makes determinations and recommendations regarding complete rebuilding or disposal of equipment when inspection reveals extensive or unusual damage or deterioration or when any condition indicates that normal repair may be economically unsound.

Inspects repair work in progress to determine what additional work may be required. Inspects major assemblies and parts after removal to determine whether or not they are beyond economical repair. Inspects equipment that has been involved in accidents to determine the extent of repairs, etc., required.

Inspects equipment after repair to insure that it meets established specifications. This includes not only work done by PWC, but, also work done by private contractors.

After determining the nature and extent of the work to be done, makes standard time and material required cost estimates, and writes this information along with a description of the nature and extent of work to be done on Shop Repair Order in order for mechanics to know the specific work to be performed.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have an extensive knowledge of the varied kinds of equipment, systems and components referenced in the preceding section. Must be an excellent overall mechanic with a knowledge of all phases of repair work in order to determine defects and to make estimates of standard hours. Must be able to operate all testing and diagnostic and measuring equipment and instruments necessary for determining defects on the above equipment. Uses such testing, diagnostic and measuring equipment as compression gages, vacuum gages, engine analyzers, fuel injection testers, voltmeters, ammeters, ohmmeters, micrometers, calipers, depth and feeler gages, measuring to tolerances of 1/1,000.

Required to read and interpret specifications, sketches, and blueprints. Must have ability to solve work problems and recommend to mechanic the best methods of accomplishing work when there are a variety of methods that may be employed. Must have ability to inspect equipment (portal cranes, floating derricks, locomotives, bridge cranes, some mobile cranes, etc.) that have to be overhauled and rebuilt in the absence of technical guides. Must know the principles and methods of heavy mobile equipment repair and inherently apply good judgment to prepare detailed instructions on Shop Repair Orders that will restore equipment to effective operating condition, economically without over-servicing or underservicing.

B. Responsibility: Receives supervision from a supervisor who provides guidance with assignments in terms of additional standard hour coverage, new Job Orders, inspection schedules, etc. Written guides include NAVFAC P-300 "Management of Transportation Equipment, TP-PW-31 on modifications guidelines (which is not always specific), Flat Rate Manuals, Air Force and Army Technical Manuals, Manufacturers' Technical Manuals, etc. When there is a questionable condition of load bearing and load controlling parts or safety devices involving weight-handling equipment, the supervisor will be informed. Informs the supervisor if estimated cost of repair, overhaul, etc., is not economical, based on the Inspector's knowledge of acquisition costs versus estimated costs. Also, consults supervisor on other unusual problems. Determines need for and recommends modifications to equipment

C. Physical Demands: Required to use hydraulic and pneumatic lifts and jacks and operate the previously referenced testing, diagnostic and measuring equipment and instruments. Work requires frequent bending, sitting, kneeling, stooping, reaching, stretching, climbing, etc. Work requires close attention of the eyes and analysis by ears.

D. Working Conditions: The work is both indoors and outdoors. When inside is frequently exposed to drafts, changing temperatures and noise which is difficult to talk above. When outside, may sometimes work in inclement weather. Frequently exposed to irritation or discomfort from dust, heat fumes, and from hard, damp floors or ground. Typically works on systems and components which are dirty, oily or greasy. May receive cuts, burns, bruises, and sprains, broken bones and shock while inspecting equipment. Often exposed to burns and skin irritations from acids, fluids and lubricants and is subject to falls from high levels when climbing aboard equipment such as large portal cranes. Exposed to falling equipment when inspecting vehicles on jack or lift.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C

CONCLUSION – WG-11

INSPECTOR
WG-5803-11

TYPICAL JOB DESCRIPTION

FOR

HEAVY MOBILE EQUIPMENT REPAIR INSPECTOR, WG-5803-11

I. GENERAL

Inspects and determines necessary repairs on a variety of heavy duty mobile equipment and components.

II. TYPICAL WORK PERFORMED

Performs inspection, diagnoses trouble, and determines necessary repair work on a variety of heavy-duty mobile equipment components, accessories, and systems to a degree necessary to restore equipment to a safe, serviceable and sometimes like new condition. Equipment inspected includes diesel, gas and multi-fuel engines, asphalt paving equipment, 5 through 500 C.F.M. diesel and gas driven reciprocating and rotary type air compressors, earth moving equipment such as crawler cranes with backhoe, dragline and shovel attachments, ditching machines, road graders, front-end loaders and excavating equipment, road rollers, crawler tractors, farm and industrial type tractors, 10-600 KW portable power generating equipment, electric arc welders, low and high pressure pumps and sprayers, grass cutting equipment, trash and garbage collectors 65 and 80 ton diesel-electric railway locomotives, self-propelled railway track maintenance cars, fire trucks, heavy duty hydraulic truck cranes, cruiser cranes, self-propelled railway locomotive cranes, heavy mobile diesel-electric portal pier crane, 750 HP stationary 6 and 12 cylinder diesel engines used in electric power generating substations, heavy marine diesel tug boat engines, 4000 lb. to 20,000 lb. capacity diesel driven missile carriers and material handling equipment, and aerial servicing platform equipment.

Inspects work in progress to determine full extent of repairs after disassembly of equipment components and/or systems. Makes final inspection of completed work and certifies and documents operating or mechanical performance tests. May make minor repairs during inspection.

Prepares shop repair orders for repair and maintenance of heavy mobile equipment by applying proper accounting codes and determining work time and cost estimates from flat rate manuals, shop developed standards and personal estimates based on shop experience and knowledge of same or related work. Maintains transportation data files on heavy mobile equipment and other equipment as necessary. Routes work to various work centers as necessary, follows up on work in progress, investigates causes of delays, makes appropriate reports and keeps records as necessary. Prepares requisitions for parts and materials necessary to complete repairs.

III. FACTOR STATEMENTS

A. Skill and Knowledge: The inspector must be a qualified journey level mechanic with thorough knowledge of how to determine the nature and extent of repairs required on above equipment. Must use judgment as to whether deficiencies reported by drivers or operators on interim or unscheduled work require immediate attention or can be delayed until the next scheduled service.

Must possess a thorough understanding of mechanical theory and mechanical makeup, operation, and working relationships, for the accurate diagnosis of repair work required, of a variety of complex heavy duty systems, assemblies and parts, including major systems, such as: industrial automatic and non-automatic transmissions and gear reduction systems, torque convertors, planetary gears, and multi range gearing; drive line assemblies including differential power dividers, and dual speed axles; hydraulic-lifting, loading, turning, and positioning systems including their intricate mechanical, hydraulic, and pneumatic controls; air brake systems such as those installed on railway locomotives and cranes.

Must have a knowledge of how electrical, transistorized, and other non-mechanical systems tie in with, and affect the operation of mechanical systems such as D.C. electrical propulsion generators, traction motors, remote control units, and magnetic brakes on railway locomotives, locomotive cranes, portal cranes, heavy duty hydraulic truck cranes, and large diesel engines controlled from A.C. electrical switchboards at substations.

Must have the ability to read and interpret correctly written technical material such as/instructions, job orders, specifications, procedures, sketches, drawings, blueprints, and manufacturers parts manuals. Also have the ability to determine overall inspection needs, essential check points, and prepare written procedures for work accomplishment in standard nomenclature on the shop repair order so that they can be readily understood by the mechanic. Have knowledge to make recommendations on whether equipment should be disposed of or rebuilt.

Must possess the skill to propose improvised methods for alteration of parts and components for the completion of repairs in absence of technical guidelines. Uses a wide variety of test and diagnostic equipment such as compression gages, fuel injector testers, voltmeters, ammeters, ohmmeters, hydraulic fluid flow test equipment, calipers, feeler gages, micrometers, tachometers, depth gages, dial indicators, torque wrenches and basic hand tools. Must have the ability to make acceptance and rejection decisions.

When inspecting work performed by private contractors, uses a knowledge of specifications and job requirements as outlined in technical manuals and in pertinent sections of the contract. Must be proficient in interpreting flat rates from manuals or from records of similar work performed in the shop. A thorough knowledge of accounting codes and work centers is essential. Must be familiar with the negotiation of commercial contracts for repair services when necessary.

B. Responsibility: Receives general supervision from supervisor consisting of work assignments, new or revised procedures or specifications, either written or oral. Independently performs assignments with little or no technical assistance.

Makes decisions on a wide range of matters that involve deviations or departures from past precedents and accepted practices or highly subjective judgments. Instructions and guides, when available, generally are not directly applicable. Must exercise sound judgment in determining the best work methods and work sequences for mechanics to use in making extensive and complex repairs to heavy mobile equipment used for handling explosive and dangerous materials.

Responsible for the annual condition inspection of weight handling equipment to ensure and certify that the overall structural, mechanical and electrical components of the equipment have been maintained in a safe and serviceable

condition and are functioning properly. Responsible for the application of all codes and job time standards after equipment has been inspected. Independently prepares realistic estimates, when necessary, based on personal knowledge and experience for repair operations on which commercial standards are not available.

C. Physical Effort: Works in tiring and uncomfortable positions for long periods. Work requires frequent bending, reaching, stretching, climbing and crouching. At times works on top of and under equipment in cramped and awkward positions. May be required to lift or carry items weighing up to 50 pounds and put forth similar effort in pushing, pulling, turning, and positioning parts, assemblies, equipment and tools. Frequently is required to climb to heights in excess of 100 feet when inspecting portal crane.

D. Working Conditions: Works both inside and outside. When inside, is frequently exposed to drafts, changing temperatures, and loud noise. When outside, may sometimes work in inclement weather, in mud or snow, and in wet or icy areas. Exposed to irritation or discomfort from dust, heat, fumes, and from hard damp floors or ground. Inspects parts and systems which are dirty, oily, or greasy. Frequently exposed to the possibility of cuts, burns, bruises, and sprains. Often exposed to the possibility of burns and skin irritations from acid, fluid, and lubricants. Frequently exposed to falls from high levels when climbing aboard equipment such as portal crane and walking out on boom extended 90 feet above ground.

Makes inspections on equipment located in hazardous areas such as explosive production plants, piers and magazines. Follows prescribed safety practices and uses protective ear devices, hard hats, hard toe shoes, respirators, and protective clothing.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-11

INSPECTOR
WG-5803-11

TYPICAL JOB DESCRIPTION

FOR

HEAVY MOBILE EQUIPMENT REPAIR INSPECTOR, WG-5803-11

I. GENERAL

Inspects and performs and witnesses tests on the electrical, mechanical, hydraulic, air, fuel injection systems, transmissions, etc., of such equipment as warehouse cranes, diesel powered forklifts (specially equipped for shipboard use), rough terrain forklifts, aircraft tow tractors, marine main engines, varied tracked vehicles, diesel powered trucks and busses, bulldozers-tractors, etc. Determines need for repairs, replacement, overhaul, modification, rebuilding, nature and extent of repairs, overhaul, etc., required, adequacy of completed repairs, overhaul etc.

II. TYPICAL WORK PERFORMED

Makes shakedown inspections of such equipment as warehouse cranes, diesel powered forklifts (specially equipped for shipboard use) rough terrain forklifts, aircraft tow tractors, marine main engines, varied tracked vehicles, diesel powered trucks and busses, bulldozers, tractors, etc., either at the work site or in the shop to determine need for repairs, nature and extent of repairs required.

Inspects varied systems and components of the preceding equipment such as: electrical, mechanical, hydraulic, air, fuel injection systems, transmissions, gear drive, units, compressors, oil and water coolers, steering mechanisms, differentials, generators starters, gages, instruments, track (sprocket, sprocket guide etc.).

Determines nature and extent of work required to restore equipment to good operating condition, economically without over-servicing or underservicing. Diagnoses specific troubles and determines the nature and extent of disassembly and repair work required. Makes visual and operational checks on equipment, systems and components.

Makes determinations and recommendations regarding complete rebuilding or disposal of equipment when inspection reveals extensive or unusual damage or deterioration or when any condition indicates that normal repair may be economically unsound.

Inspects repair or other work in progress to determine what additional work may be required. Inspects major assemblies and parts after removal to determine whether or not they are beyond economical repair. Inspects equipment that has been involved in accidents to determine the extent of repairs required.

Inspects equipment after repair to insure that it meets established specifications. This includes not only work done by PWC, but, also work done by private contractors.

After determining the nature and extent of the work to be done, makes standard time and material required cost estimates, and writes this information along with a description of the nature and extent of work to be done on Shop Repair Order in order for mechanics to know the specific work to be performed.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have an extensive knowledge of the varied kinds of equipment, systems and components referenced in the preceding section. Must be an excellent overall mechanic with a knowledge of all phases of repair work in order to determine defects and to make estimates of standard hours. Must be able to operate all testing and diagnostic and measuring equipment and instruments necessary for determining defects on the above equipment. Uses such testing, diagnostic and measuring equipment as compression gages, vacuum gages, engine analyzers, fuel injection testers, voltmeters, ammeters, ohmmeters, micrometers, calipers, depth and feeler gages, measuring to tolerances of 1/1,000.

Required to read and interpret specifications, sketches, and blueprints. Must have ability to solve work problems and recommend to mechanic the best methods of accomplishing work when there are a variety of methods that may be employed. Must have ability to inspect equipment (forklifts, runway foam crash truck, crane engine, marine engine, crash fire and rescue truck, aircraft tow tractor) that has to be converted, overhauled, rebuilt, etc., in the absence of technical guides. Must know the principles and methods of heavy mobile equipment repair and inherently apply good judgment to prepare detailed instructions on Shop Repair Orders that will restore equipment to effective operating condition, economically without over-servicing or under-servicing.

B. Responsibility: Receives supervision from a supervisor who provides guidance with assignments in terms of additional standard hour coverage, new Job Orders, inspection schedules, etc. Written guides include NAVFAC P-300 "Management of Transportation Equipment, TP-PW-31 on modifications guidelines (which is not always specific), Flat Rate Manuals, Air Force and Army Technical Manuals, Manufacturers' Technical Manuals, etc. When there is a questionable condition of load bearing and load controlling parts or safety devices involving weight-handling equipment, the supervisor will be informed. Informs the supervisor if estimated cost of repair, overhaul, etc. is not economical, based on the Inspector's knowledge of acquisition costs versus estimated costs; also consults supervisor on other unusual problems. Determines need for and recommends modifications to equipment.

C. Physical Demands: Required to use hydraulic and pneumatic lifts and jacks and operate the previously referenced testing, diagnostic and measuring equipment and instruments. Work requires frequent bending, sitting, kneeling, stooping, reaching, stretching, climbing, etc. Work requires close attention of the eyes and analysis by ears.

D. Working Conditions: The work is both indoors and outdoors. When inside, is frequently exposed to drafts, changing temperatures and noise which is difficult to talk above. When outside, may sometimes work in inclement weather. Frequently exposed to irritation or discomfort from dust, heat, fumes, and from hard, damp floors or ground. Typically works on systems and components which are dirty, oily or greasy. May receive cuts, burns, bruises, sprains, broken bones and shock while inspecting equipment. Often exposed to burns and skin irritations from acids, fluids, and lubricants and is subject to falls when climbing on equipment. Exposed to falling equipment when inspecting vehicles on jack or lift.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-11

INSPECTOR
WG-5823-10

TYPICAL JOB DESCRIPTION

FOR

AUTOMOTIVE REPAIR INSPECTOR, WG-5823-10

I. GENERAL

This position is located in Motor Transport Maintenance Company, Maintenance Battalion, 2D Force Service Regiment. The primary purpose is to provide continual surveillance throughout the repair cycle on automotive accessories (carburetors, injector pumps, alternators, generators, etc.) to ensure correct repair procedures are adhered to and, subsequently, to perform final tests and inspections. The incumbent is required to utilize complicated electronic test equipment and vacuum/pressure testing devices in the performance of duties.

II. TYPICAL WORK PERFORMED

Inspects various types of automotive components (injector pumps, generators, alternators, fuel pumps, etc., and in the absence of inspectors, engines and power train components) from tactical automotive equipment (such as Jeeps, Mechanical Mules, Cargo and Dump Trucks, etc.) to determine if they are economically repairable for return to stock.

Continually inspects work on accessories during and at the completion of rebuild operations as a measure of quality control. Final quality is determined by installing accessories on electronic test machines and vacuum/pressure test machines, under load, utilizing standards and tolerances cited in applicable technical manuals.

Coordinates the flow of work into the accessory rebuild shop, during the repair cycle, and final output of work. This entails handling the necessary paperwork (shop repair orders, parts requisitions, etc.) and actually participating in the rebuild/repair operations when duties as an inspector are not immediately required. An average of 2 or 3 marine automotive mechanics normally work under incumbent's guidance. Once quarterly, for a thirty minute period, instructs groups of 50 to 75 Marines on practical accessory rebuild/repair and testing, and engine tune-up procedures.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Incumbent is required to possess a thorough knowledge of the physical practical aspects and the function of the various electronic test machines and vacuum/pressure test machines and accessories related to his shop. Be familiar with and able to analyze, read, understand and apply manuals, pamphlets, diagrams and instructions pertaining to specifications or characteristics for the various types of equipment supported. Be qualified to a high degree in the application and use of test instruments and equipment peculiar to the mission required as cited in general.

B. Responsibility: The inspector receives very little supervision and is responsible for the complete work load for the accessory rebuild shop. Is responsible for the accuracy of diagnosing malfunctions, the necessary work to be performed and the quality of the finished product. The inspector is

responsible for planning and laying out work and adjusting work load to priority assigned. The inspector works with considerable independence from supervisory control. However, the work is generally supervised by the Maintenance Officer who is a qualified technician and normally a Warrant Officer. Testing of accessories after repairs must be performed according to manufacturer's specifications and tolerances and within the demands of military technical data as cited in applicable technical manuals.

C. Physical Effort: Ordinary physical demands apply. Heaviest items lifted average 40-50 lbs. Good hearing and vision are required. All work will be performed indoors and shop safety is forced

D. Working Conditions: All of the work will be performed indoors. Continued exposure to noise, fluids and solvents. The inspector will use the necessary safety equipment of his department and practice good housekeeping.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree B
CONCLUSION – WG-10

INSPECTOR
WG-5823-11

TYPICAL JOB DESCRIPTION

FOR

AUTOMOTIVE REPAIR INSPECTOR, WG-5823-11

I. GENERAL

Inspects various types of automotive equipment, varying from automobiles to trucks, tractors, and weight handling equipment, to determine need for repairs and nature and extent of repairs required.

II. TYPICAL WORK PERFORMED

Makes shakedown inspections of automotive equipment, such as automobiles, trucks of various types, busses, construction weight handling equipment, straddle trucks, tractors, and high lift trucks, when brought to shop for overhaul or repair. Determines general overhaul work required to restore equipment to good operating condition economically without over-servicing or under-servicing equipment. Diagnoses specific troubles and determines nature and extent of disassembly and repair work required to correct defects.

Makes such minor adjustments, repair or replacement as may expedite service such as replace wiper blades, fuse, bulbs, etc., add brake fluid, adjust tension on fan belt, and other such related duties the performance of which may preclude the necessity of a lengthy delay.

Makes visual and operational checks on vehicles and parts. Uses such measuring instruments as micrometers, calipers, and feeler gages. Uses such testing equipment as compression gages, vacuum gages, engine analyzers, and dynamometers.

Details repair work to be done on shop repair orders so that cost estimates can be made and mechanics will know specific work to be performed.

Makes recommendations regarding complete rebuilding or disposal of equipment when inspections reveal extensive or unusual damage or deterioration or when any condition indicates that normal repair may be economically unsound.

As requested, inspects repair work in process to determine what additional work may be required. Inspects major assemblies and parts after removal to determine whether or not they are beyond economical repair, inspects vehicles involved in accidents to determine extent of repair required.

May inspect vehicles after repair to insure that equipment meets established standards.

In addition to the above may apply codes relative to the automotive maintenance cost accounting program, prepare shop repair orders, and develop and apply standard hours figures from flat-rate manuals and other sources. May also route work to various work centers in accordance with nature of the work and the existing distribution of work load, follow up on work in progress, investigate causes of delays and make appropriate reports, and keep progress records.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Employee is required to read blueprints and specifications. Must be able to set up various machines and pieces of equipment and operate specialized machines, i.e., engine analyzers, and dynamometers. Must know and follow standard procedures, and is required to perform both simple and unusual or difficult operations. In order to perform the duties of this position. The employee must be able to choose from a variety of work methods, and must be able to solve work problems by his own work methods. Employee must know the principles and methods of repair of automotive and heavy duty equipment. Must be able to use measuring devices, precision instruments, and work to close tolerances as indicated in description of duties. Government vehicle driver's license required

B. Responsibility: This position is supervised by a supervisor. Instructions are usually of a general nature and are usually given orally. Written guides necessary for the performance of this position are available but must be interpreted

C. Physical Effort: No unusual physical demands required in the performance of these duties.

D. Working Conditions: No unusual working conditions are encountered in the performance of these duties.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-11

TYPICAL JOB DESCRIPTION

FOR

MUNITIONS INSPECTOR, WG-6502-09

I. GENERAL

Performs and witnesses inspections and tests on a variety of types of ammunition, explosives, devices and components. Assignments are carried out at any of a variety of locations such as the Depth Charge Building, Bomb Plants, Transfer Depot, Warhead loading Plants, Mine (inert and explosive) facilities, X-Ray facilities, Gun Ammunition Building, and other areas.

II. TYPICAL WORK PERFORMED

Performs or witnesses electrical, dimensional, weight, operational and processing inspections at designated stages during the segregation, renovation, loading, overhaul, repair, assembly, and testing of various gun ammunition, explosives, propellants, bombs, mines, depth charges, warheads, missiles, rocket motors, pyrotechnics, fuzes, boosters, detonators, exploders and their components. Performs inspection during processing, subassembly, and final assembly for conformance to drawings, specifications, directives, and local technical instructions for serviceability and proper functioning.

Performs or witnesses go or no go electrical tests on targets, ignition separation assemblies, etc., and C tests on various explosive components. Instruments used may be general purpose such as meggers and ohmmeters, or may be Navy MK and Mod on Air AN/GSM. Performs radiographic examinations for accuracy, density, cavitation and deformity.

Performs inspections for preservation, painting, packing and packaging and inspects for proper blocking and bracing on trucks and railcars. Makes acceptance and rejection decisions and prepares pertinent reports.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must be able to read and interpret specifications, technical manuals and, when inspecting work performed by contractors, pertinent contract provisions. Must be able to select and pull samples of raw materials from fuels and TNT to wax and asphalts. Must know how to use standard electrical test instruments and precision measuring instruments and tools such as micrometers, verniers, calipers, and various thread, ring, plug, snap, depth, profile, contour, taper, radii, hole and stud location, concentricity, center of gravity and functional gages, and be able to work to tolerances of .001. Must know the characteristics of a wide variety of explosives and pyrotechnics and devices and the processes used in their manufacture, processing, repair, and shipment.

B. Responsibility: The supervisor provides general instructions which concern the broad objectives and expected results of the assignment, deadline requirements, reporting formats, and other similar administrative matters. The

inspector receives little technical assistance during the course of the assignment. Review of completed work is concentrated on adequacy and conformance with desired objectives. Instructions and guides are usually available but are complicated, require careful interpretation, and may involve modification in their application to specific work assignments.

C. Physical Effort: The inspector is exposed to toxics, explosives, propellants, explosive dust, chemical irritants, and paint fumes and may work in the vicinity of materials handling equipment, overhead cranes, moving conveyors and power machinery. Occasionally may lift up to fifty (50) pounds. Must be able to distinguish colors.

D. Working Conditions: Most of the work is conducted under cover. Occasionally will work in warehouses, storage rooms or magazines under prevailing weather conditions. Is also occasionally called upon to work outside, sometimes in bad weather. Exposure to health hazard through possibility of headaches, skin rashes and poisoning is almost continual because of the variety of explosives dealt with. There is frequent exposure to the possibility of cuts, bruises, burns, and strains. May be required to maintain a U.S. Government Motor Vehicle Operator's Permit.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree A
CONCLUSION - WG-09

INSPECTOR
WG-6641-11

TYPICAL JOB DESCRIPTION

FOR

ORDNANCE EQUIPMENT INSPECTOR, WG-6641-11

I. GENERAL

Inspects, performs and witnesses inspections and tests of highly complex ordnance assemblies and components such as Mines, Depth Charges, Torpedoes, Bombs, Missiles, Rockets, and Rocket Motors, Warheads, and associated equipment to determine compliance with specifications, plans, directives, and standard workmanship practices. May work at either intermediate or depot level. May be assigned to Supply functions such as receipt, shipping and storage, contract acceptance material, reinspection, etc., or may be assigned to Ordnance functions such as conventional torpedoes and components, container and dollies, paint shop, machine shop, Depth Charge Building, Mine Assemblies, Mine mechanism, etc., or to Public Work functions such as machine shop, testing of slings, cables, etc., or other areas as appropriate.

II. TYPICAL WORK PERFORMED

Performs visual dimensional and operational checks including interface, continuity of electrical circuits, dielectrical strength, insulation resistance, mechanical accuracy of gear trains, cycling rates, pressure acoustic and hydraulic inspections at designated stages during the segregation, renovation, overhaul, repair, assembly, disassembly, and testing of various Mines, Depth Charges, Bombs, Torpedoes, Rockets, and Missiles, and their components.

Accepts and rejects items and prepares pertinent reports. Performs inspections during processing, subassembly, and final assembly. Inspects for conformance to drawings, specifications, directives, and local technical instructions for serviceability and functionability. May be required to go to contractors plant to perform inspections and must be able to demonstrate findings to contractors representatives when they visit this activity.

Uses precision measuring instruments and tools such as vernier gages, dialbore, calipers, micrometers, comparators, height and depth gages, sine bar, gage blocks, comparators, precision wires, non-destructive thickness testers, etc. Uses various gages such as ring, plug, thread, snap, profile, contour, taper, concentricity, eccentricity, angularity, dial indications, and specially designed gages. Is required to make own set-ups on surface plate. Uses a variety of electric and resistance meters and test equipment such as voltohm meter, megohm bridges, resistance meters, circuit testers, and other special precision electro-mechanical meters. Uses Navy designated (MK - Mod) electro-mechanical test sets and evaluates results.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Requires a knowledge of machine, welding, plating, preservation, painting, packing, blocking, and bracing truck, railcar and ship (combatant, cargo, and commercial) inspection procedures and techniques. Requires a background as an Ordnance Equipment Mechanic or closely related trade, a knowledge of overhaul and repair processes, and the characteristics of

equipment inspected. Requires knowledge of shop mathematics and shop theory. Requires ability to devise own inspection procedures where standard procedures are not available or do not apply.

B. Responsibility: The supervisor provides general instructions which concern the broad objectives and expected results of the assignments deadline requirements, reporting formats, and other similar administrative matters. The inspector receives little technical assistance during the course of the assignment. Review of completed work is concentrated on adequacy and conformance with desired objectives. Instructions and guides are usually available but are complicated, require careful interpretation, and may involve modification in their application to specific work assignments.

C. Physical Effort: The inspector is exposed to high air pressures, toxics, explosives, paint fumes and/or fumes in connection with the inspection of explosive loaded assemblies and other components. May work in the vicinity of materials handling equipment, overhead cranes, moving conveyors, and power machinery. Occasionally may lift up to fifty (50) pounds. Must be able to distinguish colors.

D. Working Conditions: Most of the work is conducted under cover. Occasionally will work in warehouses, storage rooms or other working spaces under prevailing weather conditions. Is also occasionally called upon to work outside, sometimes in bad weather. There is frequent exposure to the possibility of cuts, bruises, shock, burns, and strains. May be required to maintain a U.S. Government Motor Vehicle Operator's Permit.

EVALUATION

FACTOR I - Situation B
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-11

INSPECTOR
WG-6641-12

TYPICAL JOB DESCRIPTION

FOR

GUIDED MISSILE INSPECTOR, WG-6641-12

I. GENERAL

Inspects and witnesses tests of hydraulic, electrical, electronic and mechanical assemblies of various Navy guided missiles and their associated handling and test equipment with the purpose of insuring compliance to specifications, directives, and good shop directives, and insures that the components and missiles processed are fully serviceable and reliable prior to issue to Fleet Activities.

II. TYPICAL WORK PERFORMED

Performs or witnesses functional, operational, visual and dimensional inspections or tests on hydraulic, mechanical, electrical and electronic missile components when they are received as newly procured items or when they are overhauled, reworked, modified or altered and are assembled into a complete serviceable guided missile. Works at depot as well as intermediate level. Area assignments include Air Launch, Terrier/Tartar/standard, Talos, ASW, Missile Booster Buildings or Missile Component Rework.

Performs or witnesses operational or visual inspections of missile hydraulic systems, including fill and bleed, replacement of hydraulic systems and associated components, individual wing actuator tests, leak checks and complete preshipment hydraulics, utilizing hydraulic pumping unit test sets such as the DSM 259.

Inspects or verifies the testing of electrical circuits for continuity and insulation resistance. Measures or verifies measurements made on items suspected of not assembling with mating components. Verifies or tests for cycling rates, operating pressures, designated adjustments, proper torque values, control settings, etc. Visually inspects missile components, containers and associated handling equipment for deterioration.

Utilizes multi-meters, igniter circuit testers, micrometers, verniers, dial indicators, height gages, alignment gages, torque wrenches, torsion analyser, thread gages, alignment gages, cable master, etc.

Verifies that electrical and mechanical test equipment is kept in current calibration. Insures that test and assembly instructions such as the technical manuals, specifications, Standard Operating Procedures Surface Missile Processing Documents, NAVAIR Manuals, Quality Assurance Test and Inspection Procedures, technical bulletins, ORDALTS, etc. are strictly adhered to during missile and torpedo testing or other phases of missile or torpedo Production.

Prepares inspection records and data sheets on guided missiles and components. Verifies that all inspection and test criteria have been met and validates entries made in the Guided Missile Service Record (GMSR). Annotates the GMSR as final quality assurance acceptance of missiles certified ready for issue.

Continuously observes assigned work areas for unsafe or potentially unsafe conditions and reports safety violations.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Requires knowledge of specifications and technical manuals and a knowledge of pertinent sections of the contract. Must have a knowledge of the functioning of various configured missiles and torpedoes. Must have a good working knowledge of quality assurance and inspection procedures and reporting procedures that are unique to missiles and torpedoes and their associated components. Must have a thorough knowledge of trade practices involved in overhaul and repair of guided missiles.

B. Responsibility: The supervisor provides a brief outline of priorities, work sequences, and pertinent policy matters. The employee independently performs the assignment. Completed work is reviewed for adherence to inspection policy and to assure that broad objectives have been achieved. The inspector recognizes the need for departure from past precedents and accepted practices and provides technical assistance to higher authority in the resolution of problems involving waivers and deviations. Instructions and guides are usually available but are complicated, require careful interpretation, and may involve modification in their application to specific work assignments.

C. Physical Effort: Physical demands are normal, including the use of limbs and fingers. Requires good vision and hearing with or without aids. Must be able to distinguish colors.

D. Working Conditions: Considered ideal, inside temperature, humidity controlled. Occasionally will work in areas under prevailing weather conditions.

EVALUATION

FACTOR I - Situation C
FACTOR II - Level 2
FACTOR III - Degree A
CONCLUSION – WG-12

INSPECTOR
WG-6901-07

TYPICAL JOB DESCRIPTION

FOR

GENERAL EQUIPMENT INSPECTOR, WG-6901-07

I. GENERAL

Position is located in the Receiving Operations Branch, Receiving Division, Material Department, Naval Supply Center, Norfolk, Virginia. The purpose of the job is to inspect a variety of supplies and equipment for conformance to specifications and to make various supply-related determinations.

II. TYPICAL WORK PERFORMED

Inspects upon receipt from contracting supplier and other Federal activities various types of supplies and equipment in such categories as electrical, electronic, mechanical, metal products, construction, automotive, etc. Inspects items to insure they meet contract and military specifications as to type, size, quantity, standard dimensions, workmanship, proper preservation, packing, packaging, and markings, and the proper condition codes are assigned. Uses standard measuring devices such as rulers, micrometers, calipers, feeler gages, moisture registers, etc. Determines substitutes and interchangeability of items/parts. Makes acceptance or rejection decisions on items inspected and prepares appropriate inspection reports. As required, inspects material that has previously been source inspected and when discrepancies are found, prepares correspondence to notify the contract administrators. Contacts both government and commercial sources to obtain specifications, drawings, etc.

Inspects material for damages and reports extent of damages to the claims personnel. Identifies material received without proper documentation. Duties are performed in various warehouses, on piers, and occasionally aboard ship and local shore activities where material is unloaded. Material inspected is received for stock and for transshipment.

As requested, provides information to Shipment Clerks relative to hazardous items and performs other inspection duties.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Knowledge of items in the supply system, regulations regarding material acceptance inspections; and the ability to read, interpret and apply applicable guideline material. Ability to use measuring equipment.

B. Responsibility: The supervisor is the branch head, who assigns work areas and special projects and evaluates performance through the review of reports and correspondence prepared by the incumbent. The incumbent independently plans and carries out inspection processes using seasoned judgment based on extensive experience with the variety of items in the supply system. Collaborates with the supervisor relative to changes in procedures, special assignments, etc. Written guides include military specifications, technical manuals, supply catalogs, contracts, blueprints and local directives.

C. Physical Effort: Work requires walking, standing, reaching, kneeling, bending, lifting, climbing of stairs, and other forms of moderate exertion. Good vision (corrected) is required.

D. Working Conditions: Work is usually performed inside in well heated, lighted and ventilated areas, but is frequently performed out of doors, on piers or aboard ships under less favorable conditions. Incumbent is subject to cuts, bruises, dirt, dust, hazard from moving objects, and other conditions common to warehouse occupations.

EVALUATION

FACTOR I - Situation A
FACTOR II - Level 2
FACTOR III - Degree B
CONCLUSION – WG-07

TYPICAL JOB DESCRIPTION

FOR

PACKING INSPECTOR, WG-7002-08

I. GENERAL

Performs inspection of packing of avionics and electronic components, equipment and systems.

II. TYPICAL WORK PERFORMED

Inspects hardware and assemblies prior to packing to insure that materials have not been mixed and that correct materials are being supplied. This requires comparison with drawings, handbooks and various engineering drawings, as appropriate to assure inclusion of necessary spares, assemblies and equipment. Identification may require taking measurements with micrometers, thread gages, calipers, etc. Reviews documentation to assure equipment has complied with inspection and quality assurance requirements.

Performs inspections during the preservation and packing process to assure that packaging designs and techniques comply with applicable military specifications. This involves determining acceptability of a wide variety of special packaging configurations employed to ship and/or preserve complex mechanical and electronic components and assemblies.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Must have a good knowledge of packaging design criteria as related to avionics and electronics equipment. Must be able to read packing specifications, drawings and related documents. Must have a knowledge of shipping requirements related to various carriers and have sufficient familiarity with limited preservation techniques to determine adequacy in connection with the equipment involved. Must be familiar with shipping, quality assurance and other documentation. Must be able to use standard measuring instruments including micrometers and calipers.

B. Responsibility: The supervisor provides general instructions regarding policy, assignments, deadline requirements reporting formats and the like. The inspector is responsible for determining the scope and nature of required inspections. Also, the incumbent must determine the applicability of various packaging and preservation requirements to the special and unique packaging designs employed to ship various electronic devices and models. Review of completed work is concerned with adequacy and conformance to desired objectives. Applicable specifications, drawings, handbooks and/or engineering documentation may specify conflicting requirements and careful interpretation is required.

C. Physical Effort: Inspection work requires moderate physical exertion involving walking, sitting, standing, reaching, kneeling and bending. It may be necessary to work in tiring or uncomfortable positions. It is necessary to lift or move material. Items lifted without aid are for a distance of a few feet and weight is limited to 75 pounds. For greater weight, hoists, cranes dollies, and hand trucks are provided. Good digital manual dexterity, 20/20 vision

(correction permissible), and a good sense of touch is necessary to use required inspection tools.

D. Working Conditions: Work is generally performed in well-lighted, heated and ventilated areas. The incumbent is exposed to the usual moving objects of an industrial plant. Parts being inspected during packaging may have burrs and sharp edges and may be coated with oil, solvents, thinners and the like.

EVALUATION

FACTOR I - Situation A
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-08

INSPECTOR
WG-7002-08

TYPICAL JOB DESCRIPTION

FOR

PACKING INSPECTOR, WG-7002-08

I. GENERAL

Position is located in the Inspection Branch, Quality Control Division, Joint Personal Property Shipping Office. This Branch performs quality control inspections on household goods shipments ascertains by inspection that pre-storage services under basic agreements are properly and promptly performed and renders necessary reports.

II. TYPICAL WORK PERFORMED

Makes inspections in private residences of the packing, crating, blocking and bracing of household goods, before shipment, for compliance with specifications. Inspects general condition of goods; insures that items to be shipped are properly tagged for shipment and that a neat, clean inventory, properly filled out by carrier, is being initiated. Insures that proper quantity, size, and type of containers are used. Determines whether containers are suitable for the type of goods packed. Accepts or rejects packing methods used. Checks for acceptable substitution of materials.

Inspects both inbound and outbound shipments and completes DD Form 1780, Report of Carrier Services, Personal Property Shipment. In cases of carrier's failure to meet contract specifications, makes a detailed and comprehensive report to substantiate corrective and/or punitive action.

Inspects carrier's trucks and vans to insure that the vehicles are appropriate for the shipments they are intended to carry. Insures that gas tanks are filled prior to recording weight of vehicle. Inspects interiors of vans to insure that they are clean and that pads, blankets, and wrapping materials are sufficient and suitable for the shipments. Observes loading of shipments in van and/or containers to insure that articles with finished surfaces are protected by suitable pads or blankets and that other items are properly loaded for safe transportation.

Picks up shipments on Hand Reports (NSC 4050/60) from carriers and concurrently inspects their facilities weekly, making all comments, favorable or unfavorable, on reverse side. Turns in inspection reports daily to the Supervisory Inspector for checking and comment. Incumbent's next inspection of each warehouse will indicate whether previous deficiencies have been corrected. Warehouses are graded in four general categories, (1) warehouse structure, (2) housekeeping, (3) storage, and (4) handling. Makes every effort to observe the actual loading and unloading of vans and other handling functions during inspections.

Visits packing and crating plants weekly for the purpose of recording late shipments on hand. Observes the packing and crating of shipments to insure that all specifications are being complied with to the very last detail. Inspects all phases of the handling of the household goods at the packing plant, including

but not limited to, the unloading and handling, wrapping of the furniture, stacking and proper protection of the goods on the crating floor, proper stenciling of the pieces, and recording of any incoming or outgoing shipments sustaining damages while in the contractor's possession.

Inspects piers and warehouses for substandard containers weekly and completes NSC 4050/94, Inspector's Activity Report, and DD Form 6, Report of Packaging and Handling Deficiencies. Inspects carriers' flatbeds for compliance with tarping requirements and cargo overhang.

Semi-annually makes physical inventory of baggage shipments on hand at carriers' facilities, including but not limited to bus, REA, air terminals, etc.

During daily inspections and after duty hours handles complicated, delicate, and controversial problems on the spot between commercial carriers and military members and their families who are distraught and emotionally upset. For example is frequently called upon to interpret the meaning of "gouge" as opposed to "scratch", or to inform a member he must arrange for fumigation before the carrier will accept the shipment. Individual cases and circumstances are varied and require judgment and tact to resolve the problems.

Records damages and lost items on Form 5ND NSC 4730/2, Inspection Report. This form is one of the most important documents used by the military member to substantiate his claim against the carrier and/or the Government. Incumbent evaluates items member reports as damaged, i.e., pre-existing damage at origin, manufacturer imperfections, etc. The accuracy and completeness of these reports is a prime factor in determining carrier liability, thereby saving the carrier/Government money. A report that is inadequately prepared could result in carrier denial of the claim and the Government assuming the total cost.

III. FACTOR STATEMENTS

A. Skill and Knowledge: Thorough and comprehensive knowledge of the military and contract specifications governing the various phases of packing, crating, storage, and shipment of household goods. Ability to meet and deal with civilian and military personnel of all ranks and services and their dependents, carrier representatives, and contractor personnel with tact, courtesy, and authority. A valid driver's license is required.

B. Responsibility: The supervisor is the Supervisory Quality Inspection Specialist, who provides general instructions which concern the broad objectives and expected results, deadline requirements, reporting formats and other similar administrative matters. Detailed review of the work is not feasible because of the nature of the position. Reports are reviewed for proper format; however, the supervisor relies on the incumbent to prepare factual descriptions of conditions of goods and other information reported.

Efficiency of the incumbent is determined from customer satisfaction. Incumbent accepts or rejects methods, materials, and workmanship performed by packing and crating contractors and carrier companies. Guides include contract specifications, Service Tenders, other published specifications, recognized acceptable practices, PPP-B 636C (Box, Fiberboard), MIL-STD 212C (Preparation of Household Goods for Shipment and Storage), MIL-STD 129F (Marking for Shipment and Storage), Personal Property Transportation Management Regulation 4500.34R, Packing and Crating Contracts, Delivery and Storage Contracts, Pamphlets for Servicing Appliances, PPP-B 640D (Boxes, Fiberboard, Corrugated, Tripple Wall), PPP-B 580A (Boxes, Wood, Household Goods). These guides are supplemented by

knowledge obtained since the guides do not cover the variety of problems encountered. Duties performed directly affect the morale of military personnel and serve as a positive check against loss and damage claims.

C. Physical Effort: Must have the ability to constantly walk, stoop, kneel, crouch, or sit in performing inspections.

D. Working Conditions: Performs work both indoors and out. Occasionally works indoors in hot, drafty and poorly lighted or ventilated areas, or may work outdoors in less than favorable weather conditions such as light rain or cold weather.

EVALUATION

FACTOR I - Situation A
FACTOR II - Level 2
FACTOR III - Degree C
CONCLUSION – WG-08